

THE AMPHETAMINE YEARS: A STUDY OF THE MEDICAL APPLICATIONS
AND EXTRAMEDICAL CONSUMPTION OF PSYCHOSTIMULANT DRUGS IN
THE POSTWAR UNITED STATES, 1945-1980

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Nathan William Moon

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AND EXTRAMEDICAL CONSUMPTION OF PSYCHOSTIMULANT DRUGS IN
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Approved by:

Dr. Andrea Tone, Advisor
Social Studies of Medicine and
Department of History
McGill University

Dr. Douglas Flamming
School of History, Technology &
Society
Georgia Institute of Technology

Dr. Jonathan Metzl
Women's Studies Program and
Department of Psychiatry
University of Michigan

Dr. Steven Usselman
School of History, Technology &
Society
Georgia Institute of Technology

Dr. John Krige
School of History, Technology &
Society
Georgia Institute of Technology

Date Approved: November 2, 2009

For Michele

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LIST OF ABBREVIATIONS

ACNP – American College of Neuropsychopharmacology
ADD – attention deficit disorder
ADHD – attention deficit/hyperactivity disorder
AIHP – American Institute for the History of Pharmacy
AMA – American Medical Association
AMLFC – *Association des Medecins de Langue Francaise du Canada* (Canadian Association of French Speaking Physicians)
APA – American Psychiatric Association
BDAC – Bureau of Drug Abuse Control
BNDD – Bureau of Narcotics and Dangerous Drugs
CBT – cognitive behavioral therapy
CDC – Centers for Disease Control
CHADD – Children and Adults with ADD
CIBA, or Ciba – *Chemische Industrie Basel* (Chemical Industries Basel)
CNS – central nervous system
CMA – Canadian Medical Association
CMAJ – Canadian Medical Association Journal
CPT – continuous performance testing
DEA – Drug Enforcement Administration
DESI – Drug Efficacy Study and Implementation
DSM – Diagnostic and Statistical Manual of Mental Disorders
ECT – electroconvulsive therapy
EEG – electroencephalography (or electroencephalogram)
EES – Eugenics Education Society
FDA – Food and Drug Administration
JAMA – Journal of the American Medical Association
LSD – lysergic acid diethylamide
MBD – minimal brain dysfunction (or minimal brain damage)
MDA – methylene-dioxy-amphetamine
MDMA – methylene-dioxy-methamphetamine
NIH – National Institutes of Health
NIMH – National Institute of Mental Health
MAO – monoamine oxidase
MAOI – monoamine oxidase inhibitor
NCBDDD – National Center on Birth Defects and Developmental Disabilities
NPA – National Prescription Audit
NSF – National Science Foundation
OSRD – Office of Scientific Research and Development
PDR – Physicians' Desk Reference
PRB – Pharmaceutical Research Branch
SKF – Smith, Kline & French
SSRI – selective serotonin reuptake inhibitor

STAAR – Skills, Technique, Academic Accomplishment, and Remediation
WHO – World Health Organization

LIST OF KEY PHARMACEUTICAL DRUGS

| | <u>Generic Name</u> | <u>Proprietary Name</u> |
|---|--|--|
| Psychostimulants | <i>dl</i> -amphetamine dextroamphetamine methamphetamine methylphenidate phenmetrazine pemoline | Benzedrine Dexedrine Methedrine Ritalin Preludin Cylert |
| Major Tranquilizers | chlorpromazine reserpine | Thorazine Serpasil |
| Minor Tranquilizers (Anxiolytics) | meprobamate diazepam chlordiazepoxide | Miltown Valium Librium |
| Tricyclic Antidepressants | imipramine | Tofranil |
| Selective Serotonin Reuptake Inhibitors (SSRI) | fluoxetine paroxetine | Prozac Paxil |

SUMMARY

The Amphetamine Years is a history of psychostimulant drugs and their clinical applications in post-World War II American medicine. Comprising such well-known substances as the amphetamines (Benzedrine, Dexedrine), methylphenidate (Ritalin), and phenmetrazine (Preludin), this class of pharmaceuticals has been among the most widely consumed in the past half-century. Their therapeutic uses for a variety of indications such as depression, obesity, and attention-deficit/hyperactivity disorder (ADHD) in children, not to mention their relevance for a number of different medical specialties, reveals that psychostimulants have occupied an important, if underappreciated role in the practice of modern medicine. In this dissertation, I illuminate the various ways in which physicians, particularly psychiatrists, put these drugs to work in clinical practice. In short, I contend that physicians exploited the wide range of physiological and psychological effects of psychostimulants and made a place for them in different therapeutic settings, even ones characterized by competing views and theories about the workings of the human body and mind.

My dissertation is distinguished by two prominent themes. First, I emphasize the clinician perspective as a vehicle for understanding the history of the psychostimulants, as well as related developments in psychiatry, pharmacotherapy, and the political economy of drugs, in the second half of the twentieth century. Scholars such Nicolas Rasmussen, David Courtwright, and Ilina Singh have elucidated the history of psychostimulants by emphasizing how pharmaceutical companies positioned their products in the medical marketplace. My dissertation takes a different, yet complimentary

approach by studying clinicians, themselves, to further historical comprehension of the place of these pharmaceuticals within postwar medicine, society, and culture. Second, I advance the concept of “therapeutic versatility” to explain their historical trajectories. The complex set of psychological and physical effects these drugs produced made them ideal for a diverse range of therapeutic applications, which explains why they were embraced by many different medical specialties, why they were marketed by manufacturers for a variety of indications, and why they have enjoyed an enduring therapeutic lifespan, in spite of increasing efforts since the mid-1960s to regulate their availability and control their consumption. In addition to these two overarching themes, I advance five specific arguments in my dissertation. First, I contend that pharmaceutical markets were simultaneously created by the drug industry and clinicians. Pharmaceutical firms’ efforts to develop markets for their products have been well documented by historians, but in my dissertation, I underscore the role also played by clinicians in discerning drugs’ applications. Second, I argue that twentieth-century psychiatry’s conception of illness and therapeutics may not be served best by strictly dividing its history along lines of institutional and outpatient treatment. Third, I demonstrate how the use of psychostimulants by analytically oriented psychiatrists during the 1950s complicates historical notions of paradigm shift from a psychodynamic to biological orientation. Psychotherapy and psychopharmacology were not competing paradigms; in practice, doctors often employed both. Fourth, I assert that an appreciation of psychiatrists’ empirical and eclectic approaches to the use of drugs is necessary to comprehend the rise of psychiatric pharmacotherapy in the postwar era. Finally, I contend that in order to understand the relationship between medical applications of

psychostimulants and their extramedical consumption, it is necessary to conceive of a plurality of distinct “amphetamine cultures,” each characterized by a unique set of relationships between physician-prescribers, patient-consumers, pharmaceutical firms, and political authorities.

Chapter 1

Introduction

The Amphetamine Years is a history of psychostimulant drugs and their clinical applications in post-World War II American medicine. Comprising such well-known substances as the amphetamines (Benzedrine, Dexedrine), methylphenidate (Ritalin), and phenmetrazine (Preludin), this class of pharmaceuticals has been among the most widely consumed in the past half-century. Their therapeutic uses for a variety of indications, including depression, obesity, and attention-deficit/hyperactivity disorder (ADHD) in children, not to mention their relevance for a number of different medical specialties, reveals that psychostimulants have occupied an important, if underappreciated role in the practice of modern medicine. In this dissertation, I illuminate the myriad ways in which physicians, particularly psychiatrists, put these drugs to work in clinical practice. Clinicians exploited their wide array of effects and made a place for them in different therapeutic settings, even ones characterized by competing views and theories about the workings of the human body and mind.

At the same time, I examine medicine's relationship with the extramedical consumption and regulation of these drugs. The psychostimulants' concomitant identification as drugs of abuse, as well as their association with "speed freaks," dieting housewives, and doping athletes, suggests the ways in which American society has contended balancing the therapeutic benefits of drugs and their potential for harm. Proving that medical authority often speaks with more than one voice, clinicians played significant roles in both abetting and contesting the extramedical use of these

pharmaceuticals. In doing so, they grappled with establishing the hazards of stimulant consumption. Medical leaders also demonstrated concern about the role of pharmaceutical firms that relentlessly sought to expand markets for their products, as well as the federal government's growing interest in regulating both industry and physician practices. In addition to my overriding interest in understanding how clinicians employed psychostimulants as therapeutic options, I endeavor to illuminate, if only dimly, one of the most complex issues of the last fifty years: the evolving relationship between pharmaceutical companies that produce drugs, the physicians who prescribe them, the patients who consume them, and the policymakers charged with regulating these practices.

Writing about the history of pharmaceuticals demands that we consider manufacturers, prescribers, consumers, and regulators. Scholars such as Nicolas Rasmussen, David Courtwright, and Ilina Singh have advanced historical comprehension of stimulants by emphasizing how pharmaceutical companies positioned their products in the medical marketplace.¹ My dissertation takes a different, yet complementary approach by studying the clinicians themselves. In particular, I utilize the lens of physician experience and what I term "therapeutic versatility" to explain psychostimulants' contribution to postwar medicine, society, and culture. Put another way, the complex set of psychological and physiological effects these drugs produced in their users rendered them ideal for a diverse range of applications. Their versatility explains why they were

¹ Nicolas Rasmussen, *On Speed: The Many Lives of Amphetamine* (New York: New York University Press, 2008); David Courtwright, *Forces of Habit: Drugs and the Making of the Modern World* (Cambridge, MA: Harvard University Press, 2001); Ilina Singh, "Bad Boys, Good Mothers, and the 'Miracle' of Ritalin," *Science in Context* 15, no. 4 (December 2002): 577-603; and Ilina Singh, "Not Just Naughty: 50 Years of Stimulant Advertising," in *Medicating Modern America: Prescription Drugs in History*, ed. Andrea Tone and Elizabeth Siegel Watkins (New York: New York University Press, 2007), 131-155.

embraced by many different medical specialties, why they were marketed by manufacturers for a variety of indications, and why they have enjoyed an enduring therapeutic lifespan, in spite of increasing efforts to regulate their availability and control their consumption.² At the same time, I blur the boundaries that have characterized histories dealing with the therapeutic and illicit uses of these drugs. I do this by exploring the existence of distinct “amphetamine cultures” to provide a more nuanced understanding of the links between medical and extramedical consumption, as well as to explain the direction that efforts to deal with the latter took in the formulation of controls by policymakers during the 1970s.

A Psychostimulant Primer

Psychostimulants are a class of synthetic drugs that increase the activity of the central nervous system (CNS) and produce a wide array of physiological effects, of which, increased wakefulness and energy are the best known. Caffeine is a well-recognized CNS stimulant found naturally in coffee, tea, cocoa, kola nuts, and other plants. Its effectiveness in combating drowsiness and enhancing alertness makes it the world’s most widely consumed psychoactive substance, with up to 90 percent of adults ingesting it daily in North America.³ While psychostimulants have some effects in

² For one discussion on the idea that pharmaceuticals have “lifespans,” see Sjaak van der Geest, Susan Reynolds Whyte, and Anita Hardon, “The Anthropology of Pharmaceuticals: A Biographical Approach,” *Annual Review of Anthropology* 25, no. 1 (October 1996): 153-178. The authors contend that pharmaceuticals have distinct phases, such as production, marketing, and prescription, which are comparable to the stages of life of organisms. Each phase, they contend, is characterized by different sets of agents, values, and ideas and should be also understood within its distinctive cultural and social context.

³ For historical considerations on caffeine as a drug, see Brian Cowan, *The Social Life of Coffee: The Emergence of the British Coffeehouse* (New Haven, CT: Yale University Press, 2005); Mark Pendergrast, *Uncommon Grounds: The History of Coffee and How It Transformed Our World* (New York: Basic Books, 1999); and Bennett Alan Weinberg and Bonnie K. Bealer, *The World of Caffeine: The Science and Culture of the World’s Most Popular Drug* (New York: Routledge, 2001).

common with caffeine, they are distinguished by greater potency, more complex effects on the body, and their synthetic rather than natural production.⁴

The best known psychostimulant is amphetamine, which refers to both a distinct compound and a class from which similar drugs have been derived. Amphetamines are chemically based on phenethylamine, a substance common in such foods as cheese, chocolate, and wine as a product of the microbial fermentation that results in their creation (see Figure 1.1). When consumed by eaters of these foods, the phenethylamine is usually passed through and removed from the body via the liver, where it and other dietary amines are degraded by the enzyme monoamine oxidase (MAO). Put simply, amphetamine is a synthetic derivative of phenethylamine whose only difference is a methyl group (-CH₃) attached to the side chain.⁵ This single molecule makes a tremendous difference, however, because it prevents the MAO found in the liver from breaking down the phenethylamine. It is then able to enter the bloodstream and exert a variety of physiological effects upon the body and mind.⁶

⁴ The similarity of amphetamine to caffeine provides a convenient reference for American and European readers, but an even better point of comparison to amphetamine is the drug khat (or qat). This plant, which is native to East Africa and the Arabian Peninsula, contains the amphetamine-like compound cathinone. Chewing its leaves provides users with sensations of euphoria and excitement, as well as a loss of appetite, that more closely mirrors the amphetamine experience. For more on the history of khat, see Courtwright, *Forces of Habit*, 55; John G. Kennedy, James Teague, and Lynn Fairbanks, "Qat Use in North Yemen and the Problem of Addiction: A Study in Medical Anthropology," *Culture, Medicine, and Psychiatry* 4, no. 4 (December 1980): 311-344; and Ezekiel Gebissa, *Leaf of Allah: Khat and Agricultural Transformation in Harerge, Ethiopia, 1875-1991* (Athens: Ohio University Press, 2004).

⁵ The name "amphetamine" is actually a shortened version of the drug's full chemical name, **alpha-methylphenylethylamine**. The name refers to the fact that the methyl group is attached to the alpha carbon on phenethylamine's side chain. Amphetamine is alternately known by the chemical name beta-phenyl-isopropylamine.

⁶ My discussion of the chemical nature of the psychostimulants and their physiological effects is particularly indebted to Leslie Iversen, *Speed, Ecstasy, Ritalin: The Science of Amphetamines* (Oxford: Oxford University Press, 2006), 5-27.

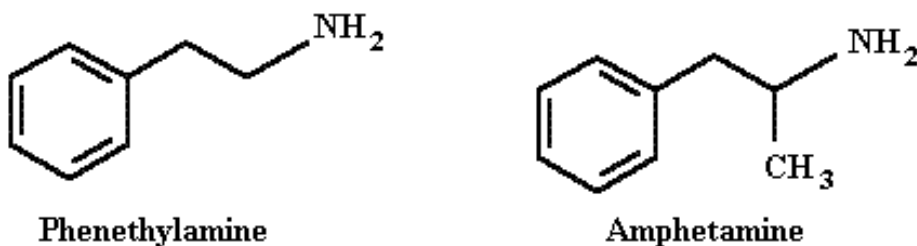


Figure 1.1 – The basic molecular structure of phenethylamine and amphetamine, suggesting the similarities between the two. Note the methyl group on side chain of amphetamine. (Source: Author, redrawn from Iversen, *Speed, Ecstasy, Ritalin*, 6)

The methyl group crucial to the formation of amphetamine can be attached to the side chain in both a left- or right-handed manner, resulting in two mirror image forms of amphetamine, or stereoisomers. When the mixture of left-handed and right-handed molecules is equal, then the form of amphetamine is a racemic mixture. This particular version is known as *dl*-amphetamine, which was the first form of amphetamine to be synthesized by British chemist Gordon Alles in 1929.⁷ The drug was subsequently introduced as Benzedrine by Smith, Kline & French (SKF) in 1933. Following this discovery, other isomers of amphetamine were soon isolated. The most important of these was the right-handed form, or dextro-isomer, which was more potent than the left-handed variant, or levo-isomer. Several years after the launch of Benzedrine, dextroamphetamine (or *d*-amphetamine) was first marketed by SKF as Dexedrine in 1937. Many other variants of this basic form are also possible. The addition of a second methyl chain to the nitrogen of the side chain results in the formation of methamphetamine, which is even more potent biologically than either Benzedrine or Dexedrine. Like the basic mixture of

⁷ While Alles is given credit for initially discovering amphetamine's effects on the body, as well as for patenting the drug, the Romanian chemist Lazăr Edeleanu synthesized it first in 1887. However, Edeleanu did not discern the medical applications of the drug, and it continues to be associated with Alles to this day. See Rasmussen, *On Speed*, 22.

amphetamine (*dl*-amphetamine), methamphetamine also can be separated into two isomers, of which, the dextro-isomer (*d*-methamphetamine) is more powerful pharmacologically. An alteration to the benzene ring creates yet another variant, methylene-dioxy-methamphetamine (MDMA), better known by its street name “ecstasy” (see Figure 1.2). Using the basic chemical “scaffold” provided by the original phenethylamine molecule, an almost unlimited number of different compounds can be made. American chemists Alexander and Ann Shulgin were notable for their discovery of 179 distinct phenethylamines that they synthesized and tested on themselves in order to document their psychotropic effects.⁸

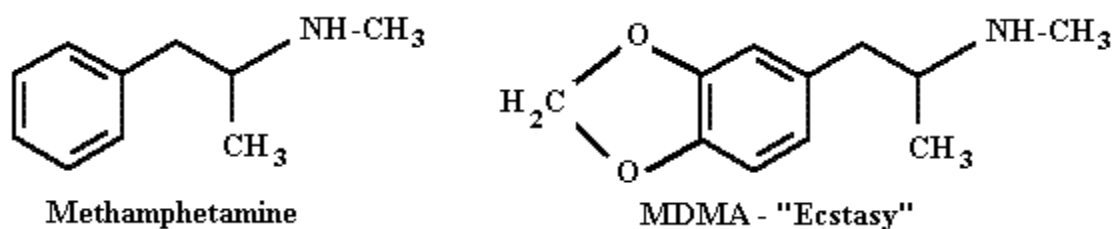


Figure 1.2 – The molecular structure of methamphetamine and MDMA.
 (Source: Author, redrawn from Iversen, *Speed, Ecstasy, Ritalin*, 6)

In addition to being a derivative of phenethylamine, amphetamine is chemically similar to a class of neurotransmitters known as catecholamines. These nervous system chemicals are synthesized primarily within the body from the amino acids phenylalanine (a molecular precursor of phenethylamine) and tyrosine. Amphetamine is closely related to two catecholamines in particular, dopamine and norepinephrine (see Figure 1.3). Best

⁸ Alexander Shulgin and Ann Shulgin, *PiHKAL: A Chemical Love Story* (Berkeley, CA: Transform Press, 1991). The title is an acronym that stands for “*Phenylethylamines i Have Known and Loved.*”

known for its role as the brain's "reward transmitter," dopamine is one of the most studied chemicals in the body. Among its diverse functions within the brain, it plays an important role in regulating a person's emotions and behavior. On the other hand, norepinephrine serves as both a hormone and neurotransmitter. It is responsible for activating the body's "fight-or-flight" responses, such as increasing the heart rate, raising the blood pressure, and releasing glucose from energy stores. As neurotransmitters, dopamine and norepinephrine work by stimulating cellular receptors, which, in turn, are responsible for producing the physiological effects in question.

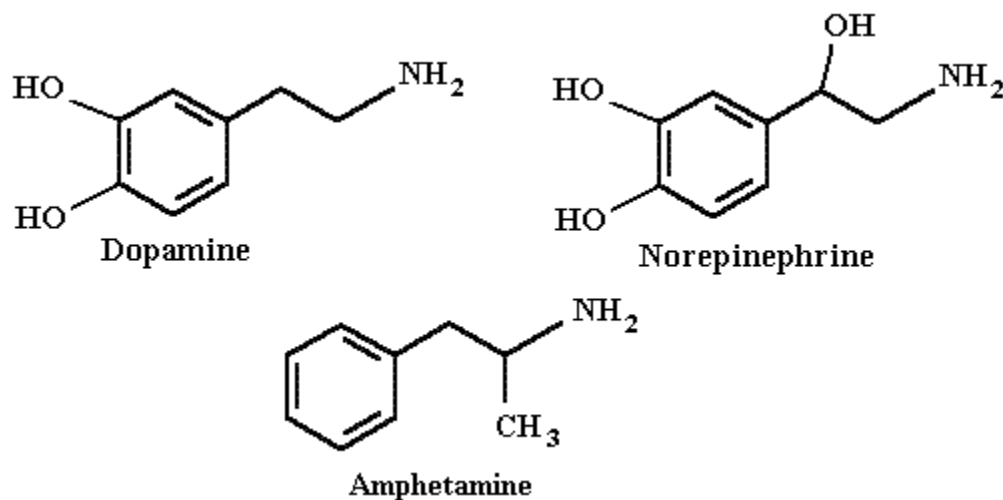


Figure 1.3 – The molecular structure of dopamine and norepinephrine, compared to that of amphetamine. (Source: Author, redrawn from Iversen, *Speed, Ecstasy, Ritalin*, 9)

Despite its similarity to dopamine, norepinephrine, and other neurotransmitters such as serotonin, amphetamine is unable to activate cellular receptors directly. Instead, the drug works by stimulating the release of natural neurotransmitters within the synaptic cleft, the gap between neurons (nerve cells) or neurons and other cells. The synaptic cleft functions as the space where chemical interactions take place as neurotransmitters pass

commands between cells. Amphetamine works by boosting the amount of these chemicals within the synaptic cleft.⁹ For example, amphetamine's increase of dopamine levels by inhibiting its reuptake partly explains the euphoria associated with the drug. Likewise, increased concentrations of dopamine caused by amphetamine have been linked to psychological dependency on the drug, due in part to dopamine's association with the brain's reinforcement of rewarding or pleasurable activities. Amphetamine's increase of norepinephrine explains other physiological effects of the drug, such as increased pulse, faster breathing, and heightened energy.

While numerous studies have established the various brain mechanisms involved in amphetamine responses, the effects of the drug on human mood and performance are quite complex. Alles immediately recognized the ability of amphetamine to alleviate fatigue and create a sense of confidence and euphoria. In scientific studies carried out after his discovery to discern the drug's subjective effects, one report identified "a sense of well being [sic] and a feeling of exhilaration" and "lessened fatigue in reaction to work."¹⁰ A 1938 study established how the drug increased a desire for work, made users believe it was easier to start or accomplish tasks, and enhanced general well-being, good humor, talkativeness, enthusiasm, and excitement, all with few adverse effects.¹¹ These

⁹ For an excellent visual depiction of amphetamine's effect on boosting dopamine and norepinephrine levels within the synaptic cleft, see "The Mechanism of Action of Amphetamine (High Dose)" at [http://www.cnsforum.com/imagebank/item/Drug_amphet_high/default.aspx].

¹⁰ M. H. Nathanson, "The Central Action of Beta-aminopropylbenzene (Benzedrine): Clinical Observations," *Journal of the American Medical Association* 108, no. 7 (February 13, 1937): 528-531. Among the phrases used by participants to describe the effects of amphetamine were "increased energy, felt as if I could not get to enough places fast enough"; "I have done things today I usually dislike but which I rather enjoyed doing today"; "the last hour and a half of work is usually an effort, today I felt fine"; "did not have my usual lethargic period after lunch"; "sense of well being, nothing seemed impossible of accomplishment"; "I wanted to stop and talk to everybody I met"; "I felt unusually friendly toward people"; "my spirits have been high all day, felt bubbling inside"; "I was able to organize my work quickly and efficiently"; "my mind felt clear all day."

early reports discerned two key effects of amphetamine on users—a euphoric sensation and a concomitant ability to enhance work performance and increase cognitive ability.

While amphetamines are the best known of the psychostimulants, they are not the only ones. During the 1940s and 1950s, pharmaceutical companies discovered a variety of compounds with somewhat more complex chemical structures than the ones that comprised the early amphetamines. The best known of these was methylphenidate, synthesized in 1944 and introduced as Ritalin by Ciba in 1955.¹² Like amphetamine, methylphenidate also exhibits several isometric forms, but it is the racemic version (again, an equal mixture of the dextro- and levo- forms) known as Ritalin.¹³

Ritalin was initially appreciated for its abilities to alleviate fatigue and stimulate mental and physical performance. Soon after its 1955 introduction, Ciba marketed the drug for chronic fatigue, lethargy, disturbed senile behavior, depression, and narcolepsy. As I discuss in this dissertation, many of these applications were eventually abandoned. Today, Ritalin is best known for its use in the management of ADHD in children and adolescents. It is still prescribed, though less commonly, as a treatment for narcolepsy.

Methylphenidate bears a structural resemblance to amphetamine, particularly dextroamphetamine (see Figure 1.4). Like the amphetamines in general, it also functions as a dopamine and norepinephrine reuptake inhibitor. However, the drug is ten times less

¹¹ Poul Bahnsen, Erik Jacobsen, and Harriet Thesleff, “The Subjective Effects of Beta-Phenylisopropylaminsulfate on Normal Adults,” *Acta Medica Scandinavica* 97 (1938), 89-131.

¹² Ciba, alternately rendered in all capital letters as CIBA, is an acronym for *Chemische Industrie Basel* (Chemical Industries Basel). However, use of the name as an acronym slowly began to disappear during the years of my study. Throughout this dissertation, I will use the form Ciba, which appears to have been in common use for much of the postwar era. See Chapter 2, note 39, for more on the early history of Ciba.

¹³ As with amphetamine, the dextro-isomer of methylphenidate is the more potent of the two stereoisomers. During the early 2000s, Novartis (formerly Ciba-Geigy) introduced dextromethylphenidate to the market as Focalin for the treatment of ADHD.

potent than dextroamphetamine in terms of behavioral stimulation and its ability to promote catecholamine release in the brain. Nevertheless, this set of characteristics has given it therapeutic value for psychiatrists seeking a drug with qualities similar to amphetamine, but with somewhat less potency. As I note later, the positioning of methylphenidate's effects between caffeine and amphetamine would serve as one of the drug's major selling points.

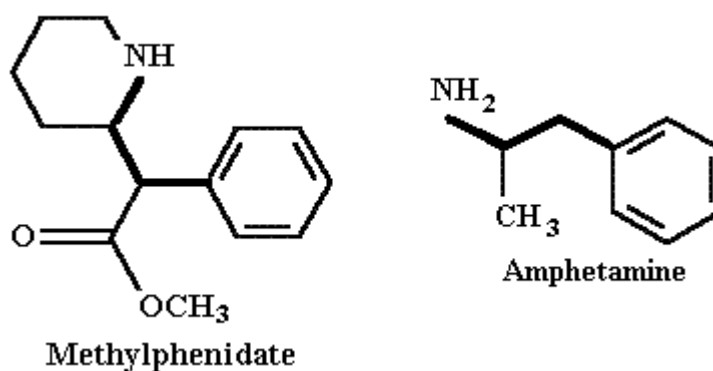


Figure 1.4 – Comparison of the molecular structure of methylphenidate and amphetamine. Note the similar chemical bonds (highlighted in bold) between the two compounds. (Source: Author, redrawn from Iversen, *Speed, Ecstasy, Ritalin*, 56)

Because they possess an ideal combination of water and fat solubility, psychostimulant drugs may be administered in a variety of ways. Based on Alles's research, SKF first introduced the Benzedrine inhaler in 1933, in line with the drug's original indication as a nasal decongestant (see Figures 1.5 and 1.6). The Benzedrine inhaler was a capped tube that contained a paper insert with 325 milligrams of an oily amphetamine base.¹⁴ For the next 15 years after its introduction, Benzedrine would be

¹⁴ The Benzedrine inhalers originally contained 325 milligrams of the drug in the form of an oily, volatile base. The evaporative characteristic of the compound allowed the vapors to escape through an opening in the tube, which was originally made of metal. Eventually, the metal was replaced by plastic,

marketed as an over-the-counter cold remedy. Unfortunately, users who were drawn to the drug's stimulating effects soon found a way to crack open the inhalers and swallow the paper inserts. The potentiated active agent found in the inhalers was 20 to 30 times greater than the average clinical dose of Benzedrine, and it delivered recreational users a more immediate and concentrated high than oral versions of the drug. Reports of inhaler abuse forced the FDA to withdraw them from over-the-counter sales in 1949.¹⁵

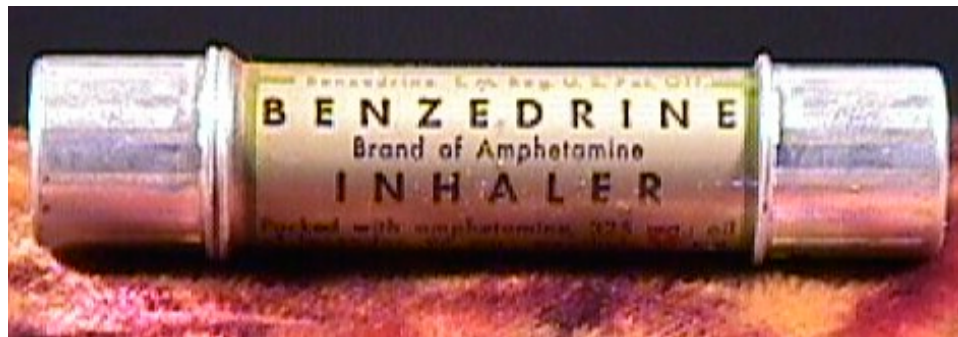


Figure 1.5 – The original Benzedrine inhaler, introduced by SKF in 1933. (Source: Addiction Research Unit, SUNY-Buffalo)

making it even easier to “crack” the inhalers to access the contents inside. In the 1940s, SKF reduced the dosage contained within the inhaler to 250 milligrams.

¹⁵ On the early history of the Benzedrine inhaler, see Rasmussen, *On Speed*, chap. 2. For more on the inhaler's abuse, see Courtwright, *Forces of Habit*, 78-80. Inhaler abuse was famously associated with the poets and novelists of the Beat Generation, particularly Jack Kerouac, William S. Burroughs, and Neal Cassady. These writers noted that their consumption of Benzedrine owed much to the creativity and productivity that the drug conferred. Kerouac wrote his most acclaimed novel *On the Road* in the span of three weeks while consuming massive quantities of Benzedrine. Likewise, Ginsberg penned “Howl” under the drug's influence. However, “Bennie” soon revealed his dark side among the Beats. Burroughs's wife Jean Vollmer wasted away as she consumed up to three Benzedrine inhalers a day. Later in life, Ginsberg would recant his use of stimulants when he became the voice of a new generation during the late 1960s. See Rasmussen, *On Speed*, chap. 4.

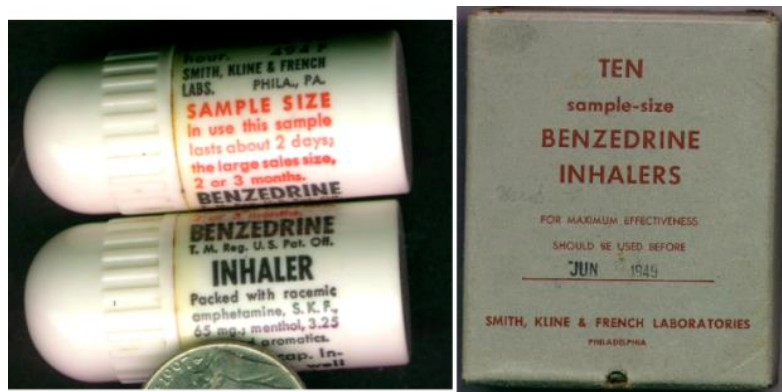


Figure 1.6 – A 1940s version of the Bensedrine inhaler. The plastic inhalers were commonly “cracked” by abusers who ingested the amphetamine-containing inserts.
(Source: Addiction Research Unit, SUNY-Buffalo)

But the most common means of administering psychostimulants, particularly for medical applications, was and remains orally, through a measured dose dispensed in a tablet or capsule (see Figures 1.7 and 1.8). Alles patented the active salts of Bensedrine, and SKF introduced the first tablet form of the drug in 1936. Oral versions of other amphetamine drugs, such as Dexedrine and Dexamyl (a combination of dextroamphetamine and the barbiturate amobarbital) soon followed. Once swallowed, these drugs dissolve in the stomach and are absorbed into the body as they pass through the gut. The combination of water and fat solubility found in tablet and capsule forms of psychostimulants permit them to be easily absorbed into the body and to penetrate the blood-brain barrier. At the same time, oral administration allows the drug to be gradually released into the body and ensures a prolonged duration of action. For medications such as Ritalin, where a single dosage may be required to last an entire school day, Ciba (now Novartis) has released sustained release (SR) and long acting (LA) versions. These characteristics, not to mention the simplicity and convenience of a pill, have made oral versions of these drugs ideal for clinical use.



Figure 1.7 – Dexedrine Spansule (10 mg.), manufactured by GlaxoSmithKline, formerly SKF. The Spansule was an extended release capsule introduced by SKF during the 1950s for prolonged administration of the drug. (*Source*: U.S. Department of Justice)

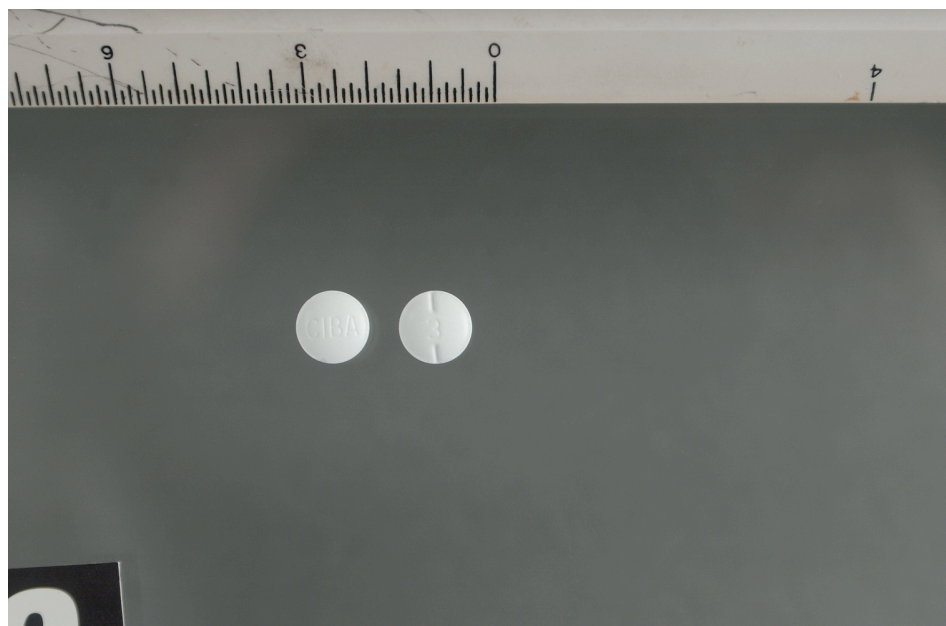


Figure 1.8 – Tablet of Ritalin (10 mg.), manufactured by Novartis, formerly Ciba-Geigy. (*Source*: U.S. Department of Justice)

More potent forms of the amphetamines and methylphenidate have been available in parenteral, or injectable, forms. Such versions are delivered directly into the bloodstream and persist in the body longer than their oral counterparts. As a result of their potency, as well as their implication in illicit use by addicts, intravenous forms of amphetamines and methylphenidate historically have been more tightly regulated. In many cases, their medical application in such forms has been discontinued.¹⁶

Historiographical Context

Establishing the Framework for Modern Pharmacotherapy and Psychiatry

As tools within the physician's therapeutic armamentarium, drugs have been in near-constant use for thousands of years.¹⁷ Yet their effectiveness in treating disease is a more recent phenomenon.¹⁸ Prior to the twentieth century, drugs were valued more for their ability to produce a set of physiological effects, such as purging, vomiting, and the

¹⁶ For example, Ciba-Geigy ceased production of injectable Ritalin in 1974.

¹⁷ There exists no universal agreement of what constitutes a "drug." However, a 1969 definition put forth by the World Health Organization provides a concise and useful standard: "any substance that, when taken into the living organism, may modify one or more of its functions." See World Health Organization, *WHO Expert Committee on Drug Dependence: Sixteenth Report* (Geneva: World Health Organization, 1969), 6. A somewhat more legal definition of "drug" is provided by the U.S. Food & Drug Administration (FDA). As codified in the Federal Food, Drug & Cosmetic Act, drugs are "articles (other than food) intended to affect the structure or any function of the body of man or other animals" and "articles intended for use in the diagnosis, cure, mitigation, treatment, or prevention of disease." See *Federal Food, Drug & Cosmetic Act*, § 201(g)(1). This second definition suggests the medical orientation of many drugs. As Andrea Tone and Elizabeth Watkins have also noted: "Drugs are substances that alter the body in order to alleviate symptoms, help make a diagnosis, or promote health and well-being." See Andrea Tone and Elizabeth Siegel Watkins, "Introduction," in *Medicating Modern America*, 1. Even more specific are pharmaceutical drugs, which are generally distinguished by their industrialized processes of research and development, manufacture, distribution, and marketing.

¹⁸ In the *Epidemics*, the ancient Greek physician Hippocrates claimed that medicine "consists in three things—the disease, the patient, and the physician." In a response to this quote, Charles Rosenberg observed that one seeking an understanding of medicine should begin with disease. Yet the notion of disease is a very complex one, as it is more than simply less than optimum health. For Rosenberg, disease is simultaneously a "biological event, generation-specific repertoire of verbal constructs, occasion of legitimation for public policy, aspect of social role and individual identity, sanction for cultural values, structuring element in doctor-patient relations." See Charles E. Rosenberg, "Framing Disease: Illness, Society, and History," in *Framing Disease: Studies in Cultural History*, ed. Charles E. Rosenberg and Janet Golden (New Brunswick, NJ: Rutgers University Press, 1992), 1.

occasional alleviation of pain, than they were for the treatment of a particular disease.¹⁹ Indeed, opium, ipecac, and mercury were the American physician's drugs of choice during the eighteenth and nineteenth centuries. Physicians and patients alike prized these substances for their visible and predictable physiological effects as part of the paradigm of practice described by historian Charles Rosenberg.²⁰ At the beginning of the nineteenth century, physicians still interpreted disease as the product of bodily disharmony, such as an imbalance between the body's humours. Physicians did not treat specific diseases. Rather, they relied upon "heroic therapies" to restore balance and good health. That the Tennessee physician John Gunn advocated the routine use of the emetic ipecac to promote frequent "puking" in order to clean a patient's system, but eschewed the use of medicines for particular diseases, suggests the role that drugs played in heroic therapies.²¹ Accompanying this holistic approach to the treatment of illness was a worldview common to both physicians and patients about the effectiveness of heroic medicine. While such therapies may appear unscientific today, and though they actually may have done more harm than good, these practices were accepted by patients who

¹⁹ The idea of a single drug for a single disease, better known as a "magic bullet," is a distinctively twentieth-century idea. Historically, it is associated with scientist Paul Erlich and his efforts to develop a cure for syphilis in which a drug would target the disease-causing bacterium without harming other organisms within the body. See Allan Brandt, *No Magic Bullet: A Social History of Venereal Disease in the United States since 1880*, expanded ed. (New York: Oxford University Press, 1987). By focusing on the social dimensions of sexually transmitted diseases, including AIDS, Brandt's study complicates straightforward understandings regarding the attribution of disease to a single pathogen and its treatment to a selective therapy.

²⁰ Charles E. Rosenberg, "The Therapeutic Revolution: Medicine, Meaning, and Social Change in Nineteenth Century America," in *Explaining Epidemics and Other Studies in the History of Medicine* (Cambridge: Cambridge University Press, 1992), 9-31. Rosenberg's scholarship has been a pervasive influence on the history of medicine over the past several decades. For more on his strengths and weaknesses associated with his approach to the subject, see Naomi Rogers, "Explaining Everything?: The Power and Perils of Reading Rosenberg," *Journal of the History of Medicine and Allied Sciences* 63, no. 4 (October 2008): 423-434; and Nancy Tomes and Jeremy A. Greene, "Is There a Rosenberg School?" *Journal of the History of Medicine and Allied Sciences* 63, no. 4 (October 2008): 455-466.

²¹ Charles Rosenberg, "John Gunn: Everyman's Physician," in *Explaining Epidemics*, 57-73.

appreciated their visible effects and shared physicians' understandings of the body and disease.²²

The advent of the germ theory of disease, associated with German bacteriologist Robert Koch, provided a major impetus for change in understandings of illness and treatment.²³ Termed the “therapeutic revolution” by Rosenberg, physicians and scientists at the end of the nineteenth century began to acknowledge the specificity of diseases, each caused by a particular pathogen and with a specific remedy. One major shift in the practice of medicine came with the emergence of public health regimes in the United States during this time, accompanied by an attendant rise in secularism and scientific discourse, to address epidemics such as cholera and typhoid.²⁴ In the face of new discoveries about the cause of disease, another key transition in medicine occurred during the early twentieth century with the establishment of institutions and methodologies that improved the healing practices of individual physicians.²⁵ One bounty of this new

²² This is not to say that all drug-mediated therapies should be understood solely within the context of heroic medicine. For example, opium provided patients with appreciable relief from pain, and its use further contributed to the legitimacy of physicians during this time. For more on the transformation of therapeutics by physicians during the nineteenth century, see John Harley Warner, *The Therapeutic Perspective: Medical Practice, Knowledge, and Identity in America, 1820-1885* (1986; reprint, Princeton, NJ: Princeton University Press, 1997). Warner elaborates on the broad principle of a “therapeutic revolution” outlined by Rosenberg, but he does diverge at various points, especially in his emphasis that changes were more evolutionary rather than revolutionary. Regarding drugs, Warner argues that heroic therapy was not used as frequently as believed. In addition, the decline in heroic therapy in the late nineteenth century was accompanied by a rise in palliative drug therapy, as well as physicians' belief in relieving pain as the first indication of patient care.

²³ Much of the secondary literature on Koch's life has been published in German. The leading biography in English remains Thomas D. Brock, *Robert Koch: A Life in Medicine and Bacteriology* (1988; reprint, Washington, DC: ASM Press, 1999).

²⁴ Charles E. Rosenberg, *The Cholera Years: The United States in 1832, 1849, and 1866*, 2nd ed. (Chicago: University of Chicago Press, 1987); Judith Walzer Leavitt, *Typhoid Mary: Captive to the Public's Health* (Boston: Beacon Press, 1996); and Nancy Tomes, *The Gospel of Germs: Men, Women, and the Microbe in American Life* (Cambridge, MA: Harvard University Press, 1998).

²⁵ Harry M. Marks, *The Progress of Experiment: Science and Therapeutic Reform in the United States, 1900-1990* (New York: Cambridge University Press, 1997).

“rational therapeutics” was the development of new pharmaceuticals for treating illness and realizing a host of therapeutic goals.

Late twentieth-century medicine has been characterized partly by the emergence of a plethora of new medications to treat illness. The discovery and subsequent mass production of penicillin and other antibiotics during the 1940s and 1950s provided medicine with its first means to eradicate diseases with a bacterial origin, including tuberculosis and syphilis.²⁶ The introduction of these new pharmaceuticals was complemented during the Cold War era by the appearance of federally funded medical research programs, large-scale pharmaceutical firms (collectively referred to as “Big Pharma”), and governmental bodies designed to regulate them.²⁷ As just one sign of the pharmaceutical industry’s medical and commercial influence since this development, consider that Americans paid almost \$200 billion for prescription drugs in 2005 alone.²⁸ Consisting of institutions the historian of psychiatry David Healy has collectively termed

²⁶ Robert Bud, *Penicillin: Triumph and Tragedy* (New York: Oxford University Press, 2007); and Albert A. Elder, ed. *The History of Penicillin Production* (New York: American Institute of Chemical Engineers, 1970). Antecedents to penicillin also deserve mention. Salvarsan, discovered by Paul Erlich in 1908, proved far superior to mercury compounds in the treatment of syphilis. Also, sulfonamides (sulfa drugs) were developed in the 1930s as forerunners to the antibiotics. See John E. Lesch, *The First Miracle Drugs: How the Sulfa Drugs Transformed Medicine* (New York: Oxford University Press, 2007).

²⁷ The historical development of “Big Pharma” has been described by numerous scholars, including Jonathan Liebenau, *Medical Science and Medical Industry: The Formation of the American Pharmaceutical Industry* (Baltimore: Johns Hopkins University Press, 1987); Louis Galambos with Jane Eliot Sewell, *Networks of Innovation: Vaccine Development at Merck, Sharp & Dohme, and Mulford, 1895-1995* (Cambridge: Cambridge University Press, 1995); Nicolas Rasmussen, “The Commercial Drug Trial in Interwar America: Three Types of Clinician Collaborator,” in *Bulletin of the History of Medicine* 75, no. 1 (Spring 2005): 50-80; Arthur A. Daemrich, *Pharmacopolitics: Drug Regulation in the United States and Germany* (Chapel Hill: University of North Carolina Press, 2004); Alfred D. Chandler Jr., *Shaping the Industrial Century: The Remarkable Story of the Evolution of the Modern Chemical and Pharmaceutical Industries* (Cambridge, MA: Harvard University Press, 2005), chap. 7-10; and Marks, *The Progress of Experiment*. Andrea Tone and Elizabeth Siegal Watkins also provide a very useful synopsis of major themes in American pharmaceutical history during the twentieth century. See Tone and Watkins, “Introduction,” in Tone and Watkins, *Medicating Modern America*, 1-17.

²⁸ Marcia Angell, *The Truth about the Drug Companies: How They Deceive Us and What to Do About It* (New York: Random House, 2004), 3; Greg Critser, *Generation Rx: How Prescription Drugs Are Altering American Lives, Minds, and Bodies* (New York: Houghton Mifflin, 2005), 2.

the “medico-pharmaceutical complex,” the relationship between pharmaceutical firms that produce medications, medical practitioners who prescribe them, patients who consume them, and regulatory bodies charged with ensuring their safety and efficacy, has become an increasingly prominent feature of medicine since the end of World War II.²⁹ The place of “Big Pharma” in American medicine, society, and culture is no less germane today, either.³⁰

While many historians of medicine have been preoccupied with longstanding social issues such as race, class, and gender in the provision of health care or the relationship between physician and patient, historian Greg Higby has noted the development of a “new pharmaceutical history.” This emerging body of scholarship considers intersecting interests in the history of medicine, history of technology, business

²⁹ David Healy, *The Antidepressant Era* (Cambridge, MA: Harvard University Press, 1997), 7-42. Healy’s observations limit themselves mainly to the institutional components of drug development, marketing, and regulation. However, one might go further to suggest that pharmaceuticals embody many of the features of what historian Thomas Hughes has termed a “technological system.” Though a consideration of drugs as technologies is somewhat beyond the scope of this study, it is possible to argue that pharmaceutical products (i.e. drugs) are technological artifacts within a larger system of invention, innovation, and development, as well as production, consumption, and regulation. See Thomas P. Hughes, “The Evolution of Large Technological Systems,” in *The Social Construction of Technological Systems*, ed. Wiebe E. Bijker, Thomas P. Hughes, and Trevor Pinch (Cambridge, MA: MIT Press, 1987), 51-82.

By and large, historians of medicine have generally not incorporated many of the concepts specific to the history of technology, yet medical historians can profit immensely from considering at least some of these ideas. Works that have attempted to integrate the two approaches include Keith Wailoo, *Drawing Blood: Technology and Disease Identity in Twentieth-Century America* (Baltimore: Johns Hopkins University Press, 1997); Joel D. Howell, *Technology in the Hospital: Transforming Patient Care in the Early Twentieth Century* (Baltimore: Johns Hopkins University Press, 1995); and Bettyann Holtzmann Kevles, *Naked to the Bone: Medical Imaging in the Twentieth Century* (New Brunswick, NJ: Rutgers University Press, 1997).

³⁰ For several excellent studies about the contemporary relationship between Big Pharma and the practice of medicine, see Merrill Goozner, *The \$800 Million Pill: The Truth Behind the Cost of New Drugs* (Berkeley: University of California Press, 2004); Jerry Avorn, *Powerful Medicines: The Benefits, Risks, and Costs of Prescription Drugs*, rev. ed. (New York: Vintage, 2005); James Taggart, *The World Pharmaceutical Industry* (London: Routledge, 1993); Stuart O. Schweitzer, *Pharmaceutical Economics and Policy* (New York: Oxford University Press, 1997); William C. Bogner with Howard Thomas, *Drugs to Market: Creating Value and Advantage in the Pharmaceutical Industry* (New York: Pergamon, 1996); Anita McGahan, Greg Keller, and John F. McGuire, “The Pharmaceutical Industry in the 1990s,” Harvard Business School, Case #9-796-058, 1995, revised 1996; and John Abraham and Tim Reed, “Progress, Innovation and Regulatory Science in Drug Development: The Politics of International Standard Setting,” *Social Studies of Science* 32, no. 3 (June 2002): 337-369.

history and political economy, and cultural studies, to comprehend the postwar pharmaceutical enterprise and its relationship with medicine.³¹

Developments in drug therapy during the postwar era included new medications for mental illness. Before the twentieth century, medical treatments for psychosis frequently met with limited success.³² In many cases, interventions at the societal level, such as institutionalization, predominated.³³ By the twentieth century, however, psychiatry began to look toward bodily, or somatic, therapies for help. Despite the occasional success, such as the application of malarial fever therapy to treat neurosyphilis, most of these treatments had irresolute outcomes for physician and patient alike.³⁴ In some cases, medical interventions such as psychosurgery incurred high human

³¹ Gregory J. Higby, review of *Medicating Modern America*, by Tone and Watkins, eds., in *Journal of American History* 94, no. 4 (March 2008): 1323-1324. Further examples of leading historical studies in this vein are discussed below.

³² Roy Porter, *Madness: A Brief History* (New York: Oxford University Press, 2003); Edward Shorter, *A History of Psychiatry* (New York: John Wiley & Sons, 1997); and David Healy, *The Creation of Psychopharmacology* (Cambridge, MA: Harvard University Press, 2002), 9-75. In a rejoinder to this view, Charles Rosenberg has observed that, despite its associations with twentieth century psychosomatic medicine, interest in the relationship between body and mind is considerably older. Moving away from specialized psychiatry and theological/metaphysical senses of *mind* and *body*, Rosenberg looked at everyday doctor-patient relationships to understand the nineteenth century construction of the neurosis concept as an outcome of the needs and circumstances of medical practice and the changing structure of etiological speculation between the mid-eighteenth and early twentieth centuries. See, Charles E. Rosenberg, "Body and Mind in the Nineteenth Century," in *Explaining Epidemics*, 74-89.

³³ Gerald N. Grob, *Mental Institutions in America: Social Policy to 1875* (New York: Free Press, 1973); and Gerald N. Grob, *Mental Illness and American Society, 1875-1940* (Princeton, NJ: Princeton University Press, 1983).

³⁴ If somewhat myopic in their interpretations, Garfield Tournay, "A History of Therapeutic Fashions in Psychiatry, 1800-1966," *American Journal of Psychiatry* 124, no. 6 (December 1967): 784-796; and Elliot S. Valenstein, *Great and Desperate Cures: The Rise and Decline of Psychosurgery and Other Radical Treatments for Mental Illness* (New York: Basic Books, 1986) are notable for their initial attempts to understand the history of bodily interventions for mental illness. In response to historical accounts that assess the somatic therapies of the early twentieth century as iterations on the path to modern biological psychiatry, critic Andrew Scull argued for the need to contextualize better these developments, observing that "historians have tended to pass over these innovations in embarrassed silence or to dismiss episodes of this sort as aberrations." See, Andrew Scull, "Somatic Treatments and the Historiography of Psychiatry," *History of Psychiatry* 5, no. 17 (March 1994), 9. Joel T. Braslow, *Mental Ills and Bodily Cures: Psychiatric Treatment in the First Half of the Twentieth Century* (Berkeley: University of California Press, 1997), represented a remarkable attempt to locate and consider the "therapeutic rationales" of

costs.³⁵ Despite divergent interpretations of their efficacy and meaning for patients, somatic therapies in institutions in the first half of the twentieth century foreshadowed the future of psychiatry. In 1954, the major tranquilizer, or antipsychotic, chlorpromazine (Thorazine) was introduced in North America as the first effective drug in the treatment of schizophrenia. While chlorpromazine would eventually reveal its share of debilitating side effects in patients, the drug was a watershed in the treatment of psychosis and one that illustrated the intersecting developments in pharmacology and psychiatry.³⁶

The minor tranquilizers, or anxiolytics, and antidepressants that followed the initial major tranquilizers further revolutionized psychiatry's back wards and private practices. Their increased use by psychiatrists meant that pharmacotherapy during the second half of the twentieth century superseded many of the bodily therapies used for the treatment of psychosis.³⁷ And as historians such as Andrea Tone, Jonathan Metzl, David Herzberg, and David Healy have observed, the prescription of anxiolytics and antidepressants beginning in the 1950s would eventually displace psychoanalytic therapy in the treatment of neurosis, as well as engender a biological orientation for understanding anxiety and minor depression.³⁸ It would be no understatement to say that

physicians who undertook such therapies. Deborah Blythe Doroshow, "Performing a Cure for Schizophrenia: Insulin Coma Therapy on the Wards," *Journal of the History of Medicine and Allied Sciences* 62, no. 2 (April 2007): 213-243, further considered the local world in which insulin coma therapies were undertaken.

³⁵ Jack D. Pressman, *Last Resort: Psychosurgery and the Limits of Medicine* (New York: Cambridge University Press, 1998).

³⁶ Judith P. Swazey, *Chlorpromazine in Psychiatry: A Study of Therapeutic Innovation* (Cambridge, MA: MIT Press, 1974); Shorter, *History of Psychiatry*; Healy, *Antidepressant Era*; and Healy, *Creation of Psychopharmacology*. Also of note is an early work on the subject, Anne E. Caldwell, *Origins of Psychopharmacology: From CPZ to LSD* (Springfield, IL: Thomas, 1970).

³⁷ A major exception is electroconvulsive therapy (ECT), which remains an efficacious treatment for major depression.

psychiatry, as it is now practiced in the early twenty-first century, is beholden more than ever to the pharmacological revolution that began just over a half-century ago.

Situating the Psychostimulants

The psychostimulants are somewhat older than the major tranquilizers, minor tranquilizers, and antidepressants that transformed psychiatry during the 1950s.

Benzedrine's discovery in 1929 coincided with a larger effort to capitalize on the demand for synthetic derivatives of naturally occurring hormones. Particularly prized were adrenal hormones, especially for their action in raising blood pressure. In 1894, a team of British physiologists first identified the hormone as adrenaline. After a race to isolate and purify the hormone, an endeavor that resulted in a number of competing products, Parke, Davis & Company introduced Adrenalin in 1901, and it soon became the leading version of adrenaline on the market. Physicians treating shock appreciated its qualities as a "pressor" that raised blood pressure. Adrenalin also was valued for its ability to constrict blood vessels and was soon added to local anesthetics to help prevent hemorrhaging. Termed a "sympathomimetic" drug for how it mimicked the sympathetic nervous system's actions on the body's organs and muscles, Adrenalin's advent inspired an enthusiastic search for similar drugs.³⁹ The next important sympathomimetic to be

³⁸ Andrea Tone, *The Age of Anxiety: A History of America's Turbulent Affair with Tranquilizers* (New York: Basic Books, 2009); Jonathan Michel Metzl, *Prozac on the Couch: Prescribing Gender in the Era of Wonder Drugs* (Durham, NC: Duke University Press, 2003); David Herzberg, *Happy Pills in America: From Miltown to Prozac* (Baltimore: Johns Hopkins University Press, 2008); David Healy, *Let Them Eat Prozac: The Unhealthy Relationship between the Pharmaceutical Industry and Depression* (New York: New York University Press, 2004); and Healy, *Antidepressant Era*.

³⁹ In outlining the features of adrenaline on specific bodily functions, I have suggested some of the characteristics associated with the sympathetic nervous system that stimulates the body's organs and tissues during stressful situations. Its diverse effects include constriction of blood vessels supplying the skin, dilation of blood vessels supplying the heart and skeletal muscles, dilation of the bronchioles to facilitate increased ventilation, relaxation of the smooth muscle in the intestines, dilation of the pupils, and release of glucose from the liver. The sympathetic nervous system is complemented by a parasympathetic nervous system that rests and relaxes the body during less stressful periods.

discovered was ephedrine, a derivative of the Chinese herb ma huang, or ephedra. The drug firm Eli Lilly introduced ephedrine to the market in the 1920s, and it became a massive success. While ephedrine had many of the pressor qualities of adrenaline, it also relaxed the bronchial passages and could be taken orally, making it a pioneering treatment for asthma. Due to the limited availability and high prices of the plant sources from which ephedrine was synthesized, demand outstripped supply and inspired a hunt for synthetic alternatives. While searching for derivatives of the drug that could be used as a nasal decongestant and bronchodilator, Gordon Alles discovered amphetamine.⁴⁰

The drug known today for its psychological properties began its therapeutic life very differently, yet the market for a nasal decongestant made the Benzedrine inhaler a bestseller. Alles was not oblivious to the broader potential of amphetamine. Nicolas Rasmussen has detailed how the threat of a patent dispute between Alles and SKF, whose products appeared to have been inspired by his findings, was transformed into a profitable alliance between the two parties. Alles subsequently isolated the active salts of amphetamine, which allowed the drug to be consumed orally. In 1937, the American Medical Association (AMA) approved the advertising of Benzedrine Sulfate for narcolepsy, postencephalitic Parkinsonism, and mild depression.⁴¹ The marketing of Benzedrine for depression coincides with Rasmussen's broader observation about the significance of relationships between the pharmaceutical industry and academic clinical researchers during the interwar period. In the case of Benzedrine, SKF's support of Harvard psychiatrist Abraham Meyerson played an important role in helping the

⁴⁰ See Rasmussen, *On Speed*, chap. 1, for a fuller discussion of amphetamine's discovery.

⁴¹ See Rasmussen, *On Speed*, chap. 2.

company to market the drug for a form of mild depression termed “anhedonia.”⁴² The indication of oral Benzedrine for depression propelled the drug to annual sales of \$500,000 by 1941, about four percent of SKF’s total sales.

The outbreak of World War II only furthered amphetamine’s ascendance. American and British forces supplied upward of 180 million tablets of Benzedrine to their personnel, particularly aviators, to keep them alert during combat. About 15 percent of Army Air Force pilots used amphetamines during the war, many of them determining their own patterns of use rather than following official guidelines for consumption. Likewise, the Germans and Japanese supplied their personnel with methamphetamine.⁴³ Rasmussen has suggested that by war’s end, up to 16 million American servicemen had been exposed to the drug.⁴⁴

Amphetamines exhibited no sign of decline after 1945, however. That same year, SKF’s sales of the drugs had quadrupled to \$2 million, including \$650,000 from the firm’s newest product, Dexedrine. The postwar era would see the drugs prescribed for an increasing number of indications, and amphetamines’ popularity would continue to soar. At the same time, their recreational consumption resulted in the emergence of what historian David Courtwright has termed “amphetamine democracies.”⁴⁵ Their prominence in American society would become so entrenched by the 1970s that scholars

⁴² Nicolas Rasmussen, “Making the First Anti-Depressant: Amphetamine in American Medicine, 1929-1950,” *Journal of the History of Medicine and Allied Sciences* 61, no. 3 (July 2006): 288-323.

⁴³ Historian David Courtwright has related how Japanese soldiers and pilots used methamphetamine to maintain their *senryoku*, “war energy” or “war strength.” Likewise, munitions and construction workers also consumed the drugs to maintain the frantic pace of wartime production. These experiences with the drug, coupled with their liberal sales as war surplus supplies following the war, contributed to a growing epidemic of methamphetamine abuse in postwar Japan. See Courtwright, *Forces of Habit*, 80-81.

⁴⁴ See Rasmussen, *On Speed*, chap. 3.

⁴⁵ See Courtwright, *Forces of Habit*, 76-84.

Lester Grinspoon and Peter Hedblom have called attention to the rise of the “speed culture.”⁴⁶ My study focuses on this postwar era of clinical application and extramedical consumption.

Key Themes and Arguments

My dissertation is distinguished by two prominent themes. First, I emphasize the clinician perspective as a vehicle for understanding the history of psychostimulants, as well as related developments in psychiatry, pharmacotherapy, and the political economy of drugs in the second half of the twentieth century. Second, I advance the concept of “therapeutic versatility” to explain psychostimulants’ multiple applications and their enduring shelf life in American medicine. These two themes allow me to craft a narrative that complements other scholars’ approaches and further illuminates the complex history of a class of pharmaceuticals recognized as important to the history of medicine.

In addition to these two central themes, I advance five specific arguments in my dissertation. First, I contend that drug manufacturers reacted to the ways in which physicians utilized their products and introduced new ones to exploit these potential indications. This responsiveness accompanied pharmaceutical firms’ established role of creating markets that physicians followed. Second, I argue that twentieth-century psychiatry’s conception of illness and therapy may not be served best by bifurcating its history along lines of institutional and outpatient therapeutic realms. The application of pharmacotherapy within both settings suggests they had more in common than their divergent histories would readily suggest. Third, I demonstrate how the widespread use of psychostimulants by analytically oriented psychiatrists during the 1950s complicates

⁴⁶ Lester Grinspoon and Peter Hedblom, *The Speed Culture: Amphetamine Use and Abuse in America* (Cambridge, MA: Harvard University Press, 1975).

historiographical notions of a paradigm shift from a psychodynamic to a biological orientation during the postwar era.⁴⁷ Psychotherapy and psychopharmacology were not competing paradigms; in practice, doctors often employed both. Fourth, I assert that an appreciation of psychiatrists' empirical and eclectic approaches to the use of drugs is necessary to comprehend the rise of pharmacotherapy in the postwar era. Finally, I contend that to understand the relationship between medical applications of psychostimulants and their extramedical consumption, it is necessary to conceive of a plurality of amphetamine cultures, each characterized by distinct relationships between physician-prescribers, patient-consumers, pharmaceutical firms, and political authorities.

Emphasizing the Clinician Perspective

The first theme of my dissertation involves my emphasis on the clinician perspective to illuminate the history of the psychostimulants. My approach parallels their study by Rasmussen in particular, who employed the pharmaceutical firm as his primary vehicle for understanding the history of amphetamines. While his history engaged myriad issues, it persuasively revealed how SKF responded to and even shaped the markets and indications for its amphetamine products. My inquiry is driven by a somewhat different concern. How did physicians interpret the medical applications of these drugs and make a place for them in their practices? By taking a “clinician-” rather than “industry-side” approach, my work provides a complementary perspective to his interpretation. Patients, pharmaceutical firms, regulators, and other key historical actors are important to my analysis. However, physician experiences provide a valuable lens for further clarifying

⁴⁷ On the notion of “paradigm shifts” in the practice of science and, by extension, medicine, see Thomas S. Kuhn, *The Structure of Scientific Revolutions*, 3rd ed. (Chicago: University of Chicago Press, 1996). In a few works on the history of psychiatry, the idea that psychiatry underwent a paradigm shift as it was transformed from a psychodynamic to a biological orientation for explaining mental illness is explicit. In many others, however, it is implicit.

the history of psychostimulants, specifically, as well as the history of medicine, regulation, and pharmaceuticals, generally.

“Therapeutic Versatility,” or the “Many Lives of Amphetamine” Redux

My dissertation is also informed by a second overarching theme. The historical trajectory of the psychostimulant drugs during the postwar era is best understood in the context of what I term therapeutic versatility. It was this characteristic that ultimately explains the variegated and enduring clinical applications of the psychostimulants. Rasmussen has also charted the “many lives of amphetamine.”⁴⁸ Yet for all the narratives he uncovered, there are still others waiting to be illuminated. My dissertation exposes and analyzes a number of important, yet overlooked applications.

While the major tranquilizers have rightfully received much credit for revolutionizing institutional psychiatry during the 1950s, the role of other drugs such as Benzedrine, Dexedrine, and Ritalin as adjuncts to facilitate the use of novel antipsychotics has been obscured. As part of combination therapies to treat psychosis, the psychostimulants alleviated the untoward effects associated with the major tranquilizers, particularly lethargy, and enhanced their efficacy. In addition to their role in the treatment of psychoses such as schizophrenia, the drugs were deemed useful by psychiatrists in the management of major depression. Before the advent of the tricyclic antidepressants, stimulants such as Ritalin served to augment established somatic interventions such as electroconvulsive therapy (ECT). Documenting these ignored applications within the broader ambit of change in postwar American psychiatry, I advance understandings of stimulants’ therapeutic versatility.

⁴⁸ The quote here refers to the subtitle of *On Speed*.

Even where the applications of these drugs are well understood, such as their indication for minor depression as early as the 1940s, there are still new facets to be revealed. Furthering the work done by Rasmussen in this area, I explore the use of pharmaceuticals by psychoanalytically oriented psychiatrists during the 1950s and 1960s. In particular, I demonstrate how these physicians turned to stimulants such as Ritalin, Dexedrine, and Methedrine to reduce patients' inhibitions and intensify their emotional states in the process of administering a "talking cure." Unlike in institutions, where the alleviation of visible symptoms and tangible results mattered most, psychiatrists in private practices often held different views of these drugs. Pharmaceuticals facilitated more open dialogues with patients, but they remained only adjuncts—the psychiatrist, not the drug, remained responsible for treatment. By taking a closer look at this and other applications that have passed unnoticed or have been discounted by historians, my dissertation contributes to our understanding of the "many lives" of psychostimulants.

Pharmaceutical Industry Responsiveness to Clinician Practices

In addition to the themes that allow me to contribute to the scholarship regarding these drugs, I advance a set of arguments that engage, complicate, and contribute to the broader historical scholarship on psychiatry, pharmaceuticals, and the political economy of drug consumption in the postwar United States. First, I suggest how the pharmaceutical industry was responsive to the ways in which physicians utilized their medications. Scholarship by David Healy, Nicolas Rasmussen, and Jeremy Greene, among others, demonstrates the lead that pharmaceutical firms sometimes took in facilitating markets for their products by touting their therapeutic indications through

advertising and detailing.⁴⁹ I do not discount the arguments of historians who have emphasized the industry's role in directing the hand of the market. But I do conclude that firms were simultaneously receptive to physicians' uses of their drugs and responded with new products to capitalize on these applications.

Throughout this dissertation, I highlight the case of Ciba, the pharmaceutical firm that manufactured Ritalin. The company introduced the drug in 1955 with a set of initial indications and some basic supporting research. However, clinicians followed their own paths—driven by their experiences, needs, and therapeutic agendas—to discern how the drug would be used. Capitalizing on the findings of numerous psychiatrists during the mid-1950s, Ciba launched Serpatilin (a combination of methylphenidate and the antipsychotic drug reserpine) to harness what appeared to be a receptive market for combination therapies for schizophrenia and major depression. Likewise, when Ciba introduced Ritonic in 1959, the firm appears to have been responding to the reported experiences of physicians who tried combinations of amphetamines, vitamins, and hormones to increase the energy and quell the agitation of elderly patients who did not suffer from a specific disease. Eventually the company would take a more active role in directing the prescription of its products in the 1960s by indicating and advertising the drug for depression. But my research suggests that physician practices played a role in directing the early marketing trajectories that drugs such as Ritalin followed.

⁴⁹ Healy, *Antidepressant Era*; Healy, *Let Them Eat Prozac*; Rasmussen, *On Speed*; Rasmussen, "Making the First Anti-Depressant"; and Jeremy A. Greene, *Prescribing by Numbers: Drugs and the Definition of Disease* (Baltimore: Johns Hopkins University Press, 2008).

Blurring Boundaries between Institutional and Outpatient Psychiatry

In my discussion of the therapeutic versatility of psychostimulants, I alluded to their different applications in institutional and outpatient settings. Conventional interpretations have underscored the differences between these two modes of treatment as a defining characteristic of psychiatry for much of the twentieth century.⁵⁰ This view has a certain basis in fact: patients suffering from the worst mental illnesses were frequently committed to mental hospitals where medical interventions commonly focused on the body. Collectively known as somatic therapies, these treatments included hydrotherapy, insulin coma therapy, malarial fever therapy, ECT, and psychosurgery.⁵¹ By contrast, outpatient psychiatry was concerned mainly with lesser mental ills collectively termed neurosis. For much of the century, psychiatrists approached “nerves” most visibly through the application of psychotherapy, a set of methods employed to elicit interpersonal rapport and establish a therapeutic relationship between clinician and patient. Perhaps the best-known form of psychotherapy in the 1950s was Freudian psychoanalysis, characterized by techniques such as free association and transference therapy to recover the repressed memories believed responsible for neurosis. The emergence of the minor tranquilizers and antidepressants during the 1950s and 1960s would have an important effect on outpatient psychiatry. Their increasing prescription, accompanied by biological models of mental illness and publications such as the third edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)* that

⁵⁰ See Shorter, *History of Psychiatry*, for one prominent synthesis in this vein.

⁵¹ For studies focusing on the various aspects of institutional psychiatry, see Gerald N. Grob, *The Mad Among Us: A History of the Care of America's Mentally Ill* (New York: Free Press, 1994); Braslow, *Mental Ills and Bodily Cures*; Pressman, *Last Resort*; and Doroshov, “Performing a Cure for Schizophrenia.” A more detailed historiographical discussion is provided in Chapter 2 of this dissertation.

privileged their use, would eventually overshadow psychodynamic approaches in private practice care.⁵²

Yet such compartmentalization overlooks the fluidity that existed between the two modes of practice. Following examples set by historians Jonathan Sadowsky and Mical Raz, I contend that the application of psychostimulants as “adjuncts” that augmented existing psychiatric practices in both realms complicates the notion that these two therapeutic domains were separated by immutable boundaries.⁵³ A case in point is the use of psychostimulants for depression. I explore how medications such as Ritalin were used as antidepressants in both institutional and outpatient settings, as well as how Ciba tailored its marketing efforts to capitalize on each. I also compare how clinicians experimented with Ritalin to discern efficacious pharmacotherapies for patients with psychosis at the same time that outpatient psychiatrists employed the drug to aid psychoanalysis. I concede that there were fundamental differences between the two

⁵² Studies focusing on the psychodynamic approach to outpatient psychiatry include Nathan G. Hale Jr., *The Rise and Crisis of Psychoanalysis in the United States: Freud and the Americans, 1917-1985*, Freud in America, vol. 2 (Oxford: Oxford University Press, 1995); John Burnham, “The Influence of Psychoanalysis upon American Culture,” in *American Psychoanalysis: Origins and Development*, ed. Jacques M. Quen and Eric T. Carlson (New York: Brunner/Mazel, 1978); and Donald K. Freedheim, ed., *History of Psychotherapy: A Century of Change* (Washington, DC: American Psychological Association, 1992). Studies that consider pharmacologically oriented outpatient psychiatry during the postwar era include Metzl, *Prozac on the Couch*; Herzberg, *Happy Pills in America*; and Tone, *Age of Anxiety*. See Chapter 3 of this dissertation for a fuller historiographical discussion of postwar outpatient psychiatry.

The *DSM* has exerted a profound influence on the practice of psychiatry since its introduction in 1952. To date, there have been four editions published (with the fifth expected around 2012), and each version has coincided with prevailing trends within psychiatric practice. For example, the *DSM-II*, published in 1968, has been interpreted as the most psychoanalytically influenced version of the manual. By contrast, the *DSM-III*, published in 1980, reflected a shift toward biological explanation of mental disorder, as well as their treatment with drug therapy. For more on the historical development of the *DSM*, see Gerald N. Grob, “Origins of the *DSM-I*: A Study in Appearance and Reality,” *American Journal of Psychiatry* 148, no. 4 (April 1991): 421-431; Theodore Millon and Gerald L. Klerman, eds. *Contemporary Directions in Psychopathology: Toward the DSM-IV* (New York: Guilford Press, 1986); and Shorter, *History of Psychiatry*, 298-308.

⁵³ Jonathan Sadowsky, “Beyond the Metaphor of the Pendulum: Electroconvulsive Therapy, Psychoanalysis, and the Styles of American Psychiatry,” *Journal of the History of Medicine and Allied Sciences* 61, no. 1 (January 2006): 1-25; and Mical Raz, “Between the Ego and the Icepick: Psychosurgery, Psychoanalysis, and Psychiatric Discourse,” *Bulletin of the History of Medicine* 82, no. 2 (Summer 2008): 387-420.

modes of practice. But by demonstrating the use of psychostimulants as adjuncts, I discern at least one commonality shared by institutional and outpatient psychiatry during the immediate postwar period.

Complicating the Transition from Psychodynamic to Biological Psychiatry

My dissertation also complicates historians' understanding of the paradigm shift from a psychoanalytical orientation in outpatient psychiatry toward one that was biological and pharmacological in character. Historians such as Jonathan Metzl and Andrea Tone have alluded to the manner in which psychiatric medications for anxiety and depression were marketed to analytically oriented psychiatrists during the 1950s. However, little attention has been paid to psychiatrists who turned to stimulants to reduce patients' inhibitions and intensify their emotional states for psychoanalysis. My study of this practice compounds historical accounts that have typically assumed that psychodynamic and pharmacological approaches were largely incompatible with one another, and it forces historians to reconsider the process of historical change within psychiatry during the postwar era.

My dissertation problematizes the notion of a psychiatric paradigm shift in a second way. As the diagnostic category of depression broadened in the 1960s and 1970s to include a wider spectrum of symptoms alleged to affect the general population, psychostimulant drugs were often marketed for and prescribed to patients under the care of general practitioners rather than psychiatrists. Drugs such as Ritalin, like the antidepressants and anxiolytics, helped shift the practice of psychiatry from specialists to nonspecialists. Hence, their study tells historians much about professional dynamics and the vicissitudes of clinical practice. It also augments our understanding of what counted

as psychiatric expertise. During the 1960s, physicians with no advanced training in psychiatry were targeted by drug companies as a new prescriber base for the treatment of depression.⁵⁴ In doing so, pharmaceutical firms served as arbiters of expertise for psychostimulant drugs. New indications for psychostimulants were promoted in medical journal advertisements aimed at general practitioners, as well as industry-based publications such as the *Physician's Desk Reference (PDR)*. Such practices illustrate the role of pharmaceutical marketing in facilitating professional shifts and expanding the base of potential consumers for a drug.⁵⁵ I look at the professional dynamics behind this “mainstreaming,” examining how psychiatrists reacted to the efforts of manufacturers such as Ciba to widen the prescriber and consumer base for its drugs during the 1960s and early 1970s.

Empiricism and Its Role in Psychiatric Pharmacotherapy

Throughout my dissertation, I emphasize the pragmatic and eclectic approaches taken by clinicians who prescribed psychostimulants. No example better illustrates my focus on empiricism than the way these drugs were applied within pediatric psychiatry. By the early 1960s, stimulants were established as a treatment for hyperkinetic disorder in children, later reclassified as ADHD. Scholars such as Ilina Singh, Rick Mayes, Adam Rafalovich, Andrew Lakoff, and Matthew Smith have charted the development of ADHD

⁵⁴ For such an example involving anxiety and the tranquilizer meprobamate (Miltown), see Andrea Tone, “Listening to the Past: History, Psychiatry, and Anxiety,” *Canadian Journal of Psychiatry* 50, no. 7 (June 2005): 373-380; and Andrea Tone, “Letter to the Editor,” *Canadian Journal of Psychiatry* 51, no. 1 (January 2006): 60.

⁵⁵ For more on drug marketing, see Nancy Tomes, “The Great American Medicine Show Revisited,” *Bulletin of the History of Medicine* 79, no. 4 (Winter 2005): 627-663; and Greene, *Prescribing by Numbers*. A useful visual resource for tracing the importance of race, class, and gender to the consumption of drugs includes the “Medicine and Madison Avenue” project, available online at [<http://scriptorium.lib.duke.edu/mma/index.html>].

as a diagnostic category, as well as the accompanying rise of a biological model for the disorder and its management with pharmacotherapy.⁵⁶ However, much of the scholarship has explained this development as the result of competition between psychodynamic and biological orientations in psychiatry, in which the latter prevailed over the former. An alternate body of scholarship, most notably the work of Peter Conrad, has contended that the treatment of children with stimulants represented the medicalization of socially unacceptable behavior.⁵⁷ Yet, neither of these interpretations necessarily matches the experiences of the physicians most responsible for the establishment of pediatric stimulant therapy.

By contrast, my dissertation follows the clinical and pharmacological research that established pharmacotherapy as the preferred means for treating hyperkinesis. Rather

⁵⁶ Singh, “Bad Boys, Good Mothers”; Singh, “Not Just Naughty”; Rick Mayes and Adam Rafalovich, “Suffer the Restless Children: The Evolution of ADHD and Paediatric Stimulant Use, 1900-80,” *History of Psychiatry* 18, no. 4 (December 2007): 435-457; Andrew Lakoff, “Adaptive Will: The Evolution of Attention Deficit Disorder,” *Journal of the History of the Behavioral Sciences* 36, no. 2 (Spring 2000): 149-169; and Matthew Smith, “Psychiatry Limited: Hyperactivity and the Evolution of American Psychiatry, 1957-1980,” *Social History of Medicine* 21, no. 3 (December 2008): 541-559.

⁵⁷ Peter Conrad, “The Discovery of Hyperkinesis: Notes on the Medicalization of Deviant Behavior,” *Social Problems* 23, no. 1 (1975): 12-21. For further elaboration of Conrad’s thesis, see Peter Conrad and Joseph Schneider, *Deviance and Medicalization: From Badness to Sickness*, expanded ed. (Philadelphia: Temple University Press, 1992); and Peter Conrad, *The Medicalization of Society: On the Transformation of Human Conditions into Treatable Disorders* (Baltimore: Johns Hopkins University Press, 2007).

Medicalization, first advanced as a sociological concept, is generally understood as the process in which nonmedical conditions are transformed into medical problems, usually in terms of illnesses or disorders. Scholar Irving Zola is generally credited for coining the term. See Irving K. Zola, “Medicine as an Institution of Social Control,” *Sociological Review* 20, no. 4 (November 1972): 487-504. While the concept has also been closely associated with social theorist Michel Foucault, he did not explicitly use the term “medicalization” to describe what he viewed as increasing authority of medical knowledge, institutions, and practitioners in modern society, and its concomitant exertion of power on social structures. See Michel Foucault, *Madness and Civilization: A History of Insanity in the Age of Reason* (1969; reprint, New York: Vintage Books, 1988); Michel Foucault, *The Birth of the Clinic: An Archaeology of Medical Perception* (1973; reprint, New York: Vintage Books, 1994); and Michel Foucault, *The History of Sexuality, Vol. 1: An Introduction* (1978; reprint, New York: Vintage Books, 1990). However, Deborah Lupton has noted how Foucault presented a “consonant vision that shows the impact of medical discourses on peoples’ lives.” See Deborah Lupton, *The Imperative of Health: Public Health and the Regulated Body* (London: Sage Publications, 1995), 1-15. At the same time, however, sociologists have tended to view medicalization more as a form of social construction than the exertion of Foucauldian “biopower.” Perhaps no scholar has done more to advance the sociological concept of medicalization than Conrad.

than parsing the rhetoric behind the causes and treatment of the disorder, or assuming that psychopharmacology triumphed in a clash of competing approaches toward children's problems, I focus on how clinical researchers and practicing pediatric psychiatrists themselves approached the issue. It is worth noting that many clinicians who came to embrace stimulant therapies were initially uncertain about their potential efficacy. Yet, in the words of two psychiatrists, they were willing to attempt their use because of a "chief need...to improve a situation" in children's behavioral problems.⁵⁸ Emphasizing the therapeutic pragmatism of pediatric psychiatrists who established the efficacy of stimulant therapy for hyperkinesis, I examine the roles of such leading figures as Leon Eisenberg, C. Keith Conners, Gabrielle Weiss, and Donald and Rachel Klein in creating a space for pharmacotherapy among children.

"Amphetamine Cultures" and Extramedical Consumption

Published in 1975, Grinspoon and Hedblom's *The Speed Culture* was the first major work to consider the history of amphetamines in a comprehensive manner. Their book had two major concerns: the medical application of amphetamines and the culture surrounding the extramedical and illicit use of the drugs. Written at a time when concern over amphetamine abuse in the United States was reaching a fevered pitch, Grinspoon and Hedblom's greatest contribution was an attempt to address the tension between amphetamines' potential as an efficacious addition to the therapeutic armamentarium of physicians and the drugs' capability for great harm when misused. In the end, the authors were unable to legitimate the precarious balance and concluded that, socially and medically, amphetamines' drawbacks outweighed their therapeutic benefits. In their final

⁵⁸ Herbert Freed and Charles A. Peifer, "Treatment of Hyperkinetic Emotionally Disturbed Children with Prolonged Administration of Chlorpromazine," *American Journal of Psychiatry* 113, no. 1 (July 1956): 22.

summation on the consumption of amphetamines, Grinspoon and Hedblom observed, “To put it quite simply: our culture influences, encourages, and sometimes causes people to use amphetamines; and their behavior under the influence of these drugs often constitutes a caricature of the very society that produced it.”⁵⁹

Over three decades later, Rasmussen sought to explain how the amphetamines fit into the broader history of pharmaceuticals in the United States. Of particular interest was the common narrative in which many “miracle” drugs of the twentieth century, ranging from corticosteroids to benzodiazepines, were enthusiastically prescribed for illness, only to be found wanting later.⁶⁰ Rasmussen highlighted the initial excitement surrounding the therapeutic possibilities of the amphetamines as antidepressants, performance enhancers, and diet aids. But he also documented how the therapeutic capabilities of Benzedrine, Dexedrine, and Dexamyl gave way to the horrors of speed junkies and crystal meth addicts.

I accept these assertions about the downsides of amphetamine consumption. But there is a need to transcend, or at least complicate, the dichotomy that views the history of drugs solely in terms of a therapeutic “boom and bust.” I examine the extramedical consumption of amphetamines during the 1960s and 1970s by focusing on what I term amphetamine cultures, each with their own constituents, modes of use, and relationships with the medical establishment, regulatory authorities, and cultural brokers. For example, women who used Dexedrine to lose weight had a common set of experiences, expectations, and understandings indicative of a specific *milieu* in time. I argue that the

⁵⁹ Grinspoon and Hedblom, *Speed Culture*, 291.

⁶⁰ See Tone, *Age of Anxiety*, chaps. 7-9, for a discussion of what she terms the “benzodiazepine backlash.” See also, David Herzberg, “‘The Pill You Love Can Turn on You’: Feminism, Tranquilizers, and the Valium Panic of the 1970s,” *American Quarterly* 58, no. 1 (March 2006): 79-103.

historical specificity of such cultures resulted in unique relationships with other key actors of drug consumption, manufacturing, marketing, and regulation in the United States, as well as shaped the historical trajectories each of these modes of use would take as controls on the extramedical use of these drugs were tightened through the 1970s.

Sources and Methods

To excavate physician experiences, I consulted hundreds of relevant articles on the clinical use of psychostimulants during the timeframe of my study. Like many historical studies into the history of pharmacotherapy, the medical literature comprises the foundation for my study. I also made use of the archival collections of the American College of Neuropsychopharmacology (ACNP) at Vanderbilt University (recently relocated to the University of California, Los Angeles) and the American Institute for the History of Pharmacy (AIHP) at the University of Wisconsin. Among the collections of the ACNP, the papers of Dr. Heinz Lehmann proved particularly valuable, especially in comprehending Lehmann's own response to controls on amphetamines during the 1970s. The AIHP's archives provided me with access to materials on Ciba-Geigy that helped me understand its marketing of Ritalin during the 1950s and 1960s. Other collections, such as McGill University's Osler Library Archives, further enriched this study. In addition, I made use of oral histories, especially for Chapters Three and Four of this dissertation. Several of these are published in the three volume series *The Psychopharmacologists*, edited by David Healy. These interviews provide a wealth of personal insights for historians of psychopharmacology. Many of the oral histories relevant to my topic, however, are unpublished and were made available to me as part of the ACNP archival

holdings.⁶¹ Finally, government documents, particularly Congressional hearings on the subject of drug regulation, controls on stimulant drugs, and concern over amphetamine consumption, are also integral to my analysis. Chapters Five and Six, in particular, profit from my use of these sources.

Description of Chapters

Chapter Two considers the place of psychostimulant drugs within the pharmacological revolution that took place in institutional psychiatry beginning in the mid-1950s. As analeptics that complemented the newly introduced major tranquilizers, psychostimulant drugs played an underappreciated role in this shift. Even if a minority approach, combination drug therapy conferred increased effectiveness on the major tranquilizers responsible for the treatment of psychosis and contributed further toward deinstitutionalization in the postwar era. As antidepressants or, to use the vernacular of the day, psychic mood energizers, psychostimulants likewise provided institutional psychiatrists with useful alternatives to involved somatic therapies such as ECT.

Chapter Three reveals the role of psychostimulant drugs in outpatient psychiatry from the late 1940s to the late 1960s. It investigates the application of drugs by psychoanalytically oriented psychiatrists in the 1950s and 1960s. In particular, I examine how these physicians utilized Methedrine, Dexedrine, and Ritalin to improve psychoanalytic therapy. In addition, I discuss how pharmaceutical firms began marketing stimulants for conditions they termed “environmental depression” during the 1960s, mainly as a means to court general practitioners as a new set of prescribers for these drugs, as well as cultivate a wider base of consumer-patients.

⁶¹ These oral histories were done by other historians of medicine and have been made available to researchers as part of the ACNP’s archives, either as audiocassette or videotape recordings. In some cases, written transcriptions of these oral history interviews have also been produced.

Chapter Four assesses the application of psychostimulant drugs in the management of hyperkinetic disorder during the postwar era. My primary concern is the discovery and establishment of pharmacotherapy with stimulants as a primary therapy for the disorder. I emphasize the empirical, even atheoretical, orientation of physicians who sought any means possible to improve children's behavioral problems. Also important to the rise of pharmacotherapy for children during the 1960s were methods of qualitative and quantitative assessment that confirmed psychiatrists' initial observations.

In Chapter Five, I examine amphetamine cultures during the 1960s, a decade in which the extramedical uses of the drug soared. Looking at four cultures in particular—"speed freaks" associated with the Haight-Ashbury district of San Francisco between 1967 and 1969, diet pill users, truck drivers, and athletes—I conclude how the specificity of each of these cultures resulted in unique relationships with other players in drug consumption, manufacturing, marketing, and regulation in the United States, as well as shaped how authorities responded to extramedical consumption. Why, for example, would authorities be more likely to penalize the recreational use of the drug by teenagers living in Haight-Ashbury than they were to arrest an Indiana housewife who may have turned to diet drugs to give her more "pep"? The key to that assessment, I contend, involved how medical and political authorities defined and responded to sanctioned or legitimate uses. At the same time, I discuss how physicians became increasingly concerned during the 1960s about the potential dangers of amphetamine consumption. Part of the problem involved a definition of addiction rooted in a paradigm of physical dependency and associated with narcotics. Psychostimulants, by contrast, were characterized more by their potential for psychological, rather than physical, dependency.

Hence, they were identified initially as drugs of “habituation” rather than addiction.

Debates by medical leaders during the early 1960s set the stage for a reappraisal of the safety, if not the efficacy, of amphetamines during the second half of the decade.

Chapter Six considers how lawmakers, using the newly passed Controlled Substances Act as a platform, moved to tighten controls on amphetamines and other psychostimulant drugs during the early 1970s. Debates over the proper level of controls for psychostimulant drugs during the early 1970s focused on whether they should be controlled according to their legitimate medical applications, a position held by the FDA, or according to their potential for addiction and danger of being illegally diverted for illicit use, the preference of the Bureau of Narcotics and Dangerous Drugs (BNDD, to become the Drug Enforcement Administration, or DEA, in 1973). In contrast to those medical experts who supported the imposition of more stringent controls, I also consider how some leading physicians expressed opposition.

My dissertation concludes with a brief look at clinical psychostimulant use since 1980, particularly the staggering rise of these drugs to treat ADHD. But also notable have been failed attempts to revive their prescription for other indications, as the “Fen-Phen” debacle of the 1990s suggests. I end the dissertation by assessing the contributions this study has made to historical scholarship, as well as identifying future research directions.

Chapter 2

“Vim, Vigor, and Vitality”: Psychostimulant Drugs and their Use in Institutional Settings

Introduction

As technologies, drugs are notable for the myriad roles they are capable of fulfilling, depending on both the user and the particular effect that is sought.¹ The stimulating properties of Smith, Kline & French’s (SKF) Benzedrine led physicians and consumers to appreciate its potential for fighting fatigue, curing narcolepsy, and combating obesity. In their review of the medical literature in 1939, Edward C. Reifenstein, Jr. and Eugene Davidoff were able to quote 115 articles published in just three years, between 1935 and 1938, on the potential medical applications of Benzedrine.² Less than a decade later, physician W. R. Bett reported a staggering 39 indications for the drug.³ Pleasure seekers who cracked open Benzedrine inhalers to ingest their paper strips conferred notoriety upon them, but just as significant for the drug’s growing success were the efforts of SKF to discern medical applications for its

¹ In this case, a user can describe both a prescriber and a consumer of a drug. Sometimes, those individuals may be the same, such as a person treating himself or herself with an over-the-counter medication for the common cold. But frequently, they are different people. The issue of agency regarding the consumption of drugs is a long-standing one. As Senator Estes Kefauver famously remarked in his 1959 hearings on drug markets, “The drug industry is unusual in that he who buys does not order, and he who orders does not buy.” His observation could be extended to cover the issue of consumption, as well. See Goozner, *\$800 Million Pill*, 234.

² Edward C. Reifenstein Jr. and Eugene Davidoff, “Benzedrine Sulfate Therapy: The Present Status,” *New York State Journal of Medicine* 39 (January 1, 1939): 42-57.

³ W. R. Bett, “Benzedrine Sulfate in Clinical Medicine: A Survey of the Literature,” *Postgraduate Medical Journal* 22 (August 1946): 205-218. Among the applications reported by Bett: epilepsy, Parkinson’s disease, schizophrenia, alcoholism, barbiturate intoxication, anesthetic overdose, morphine and codeine addiction, smoking (tobacco products), behavioral problems in children, enuresis, migraine headaches, heart block, multiple sclerosis, myasthenia gravis, myotonia (muscle rigidity), infantile cerebral palsy, urticaria, dysmenorrhea, colic, irradiation sickness, and hypotension. See also Courtwright, *Forces of Habit*, 78; and Iversen, *Speed, Ecstasy, Ritalin*, 29.

amphetamine products and cultivate new markets.⁴ Policymakers and medical experts would eventually have to sort out legitimate uses from those deemed to be off-label, at best, and illicit, at worst. But what remains striking is how a single drug fulfilled many different needs by the people who used it.

The case of Benzedrine during the 1930s and 1940s was a harbinger for the use of other psychostimulant drugs during the second half of the twentieth century. This chapter takes up the issue of how a singular class of drugs fulfilled diverse clinical needs within institutional psychiatry. I use the example of Ritalin to demonstrate how medical professionals during the 1950s and 1960s discerned uses for this new stimulant. For some clinicians, Ritalin's properties as an analeptic were most appreciated; for others, its potential as an antidepressant gained the drug new adherents. Moreover, I use Ritalin as a case to demonstrate the relationship between clinicians and the manufacturer in identifying and marketing new uses for the drug. While Ciba may have placed the drug on the market and provided rudimentary guidelines for use, physicians over the next two decades expanded the possibilities for the medication by reporting its efficacy in a number of settings.⁵ Ciba responded to the ways doctors used their drugs by altering their promotional efforts and introducing novel products to take advantage of these applications. Historians have demonstrated how drug firms cultivated markets for their products; however, it is also important to understand how clinicians simultaneously drove indications and influenced pharmaceutical marketing.

⁴ Rasmussen, "Making the First Anti-Depressant."

⁵ Similarly, Laura Hirshbein discusses how diagnoses and therapeutic responses to drugs were closely coupled in the case of antidepressants. See Laura D. Hirshbein, "Science, Gender, and the Emergence of Depression in American Psychiatry," *Journal of the History of Medicine and Allied Sciences* 61, no. 2 (April 2006): 200-201.

Institutional Psychiatry in the United States

Mental illness, whether termed psychiatric disorder, madness, insanity, or just “nerves,” has been a constant feature of the human condition. However, societies around the world have interpreted and reacted to this phenomenon in strikingly different ways. In Western societies, treatment of mental illness has remained under the purview of modern psychiatry since its emergence in Europe during the late eighteenth century.⁶

Without taking too reductionist a view of its professional heterogeneity and complexity, American psychiatry in the second half of the twentieth century essentially existed in two forms: institutional psychiatry that addressed the needs of mentally ill people unable to care for themselves within society, and outpatient psychiatry that tended to the relatively minor, everyday problems of patients in a private practice setting. Stated another way, institutional psychiatry concerned itself with psychoses; outpatient psychiatry focused on neuroses. In this chapter, I examine the first of these modes and the impact of psychostimulant drugs on its practice during the immediate postwar era.

Institutional psychiatry in the United States had its roots in the asylum movement of the early nineteenth century. Prior to the development of therapeutic asylums, care for the mentally ill was generally viewed as the responsibility of the family or community. In colonial America, the family often served as the primary source of care and support for

⁶ Roy Porter's *Madness* offers one of the best syntheses of Western views of mental illness. Porter begins his study by posing the fundamental question of whether mental illnesses are real diseases with biological bases, or whether they are social constructions reified by the medical establishment for professional purposes and by the public to explain and deal with intractable emotional and mental problems. While Porter does not satisfactorily resolve the issue in his book, he does provide an excellent summary of its history in the West, with a special emphasis on patient perspectives. To his credit, Porter avoids a positivist approach in his work, and takes a rather critical approach to such historically contentious issues such as the asylum and psychoanalysis. Nevertheless, he emphasizes that divisive therapies such as electroshock and psychosurgery represent attempts by well-meaning psychiatrists to provide therapeutic interventions for patients with few other options for a cure. On the balance, he also observes that many patients subject to the most invasive therapies were often denied agency and even powerless against psychiatrists' decisions.

those suffering from madness. Because insanity was not perceived as a social problem requiring public policies, communities often responded to the issue informally on an *ad hoc* basis. For example, town leaders frequently provided subsidies to alleviate the economic burdens placed on families caring for insane members. Townspeople also tended to adopt tolerant attitudes toward those mentally ill individuals considered part of the community and viewed as benign. For those perceived as a threat to public safety, communities reacted more aggressively. Confinement in jails or almshouses was one possibility; expulsion from the community, especially for those viewed as outsiders, was another. But in most cases, care for the mentally ill was a family matter in colonial America, with the community playing a limited, supporting role.⁷

The first half of the nineteenth century witnessed social and economic changes that altered the care of the mentally ill in the United States.⁸ The shift toward a more urban and industrial society in these decades heralded changes to the traditional family, as many of its functions, including education and care of dependent members, were

⁷ Grob, *Mad among Us*, 5-22; Grob, *Mental Institutions in America*; and Mary Ann Jimenez, *Changing Faces of Madness: Early American Attitudes and Treatment of the Insane* (Hanover, NH: University Press of New England, for Brandeis University Press, 1987). In her survey of mental health care in New England between 1700 and 1840, Jimenez argues that there were essentially two distinct eras, colonial and post-revolutionary, regarding attitudes toward madness. The colonial era was defined by its Puritanical views on the subject. Prayer and fasting, rather than medical interventions, were the primary therapies. The post-revolutionary era was marked by an increasingly medical view on the subject, as the locus of therapy shifted from the family to the institution. Grob's account of the colonial period is largely in accord with Jimenez's, though he does stress nascent attempts at institutionalization, such as hospitals in Philadelphia and New York to address the needs of the insane.

⁸ See Walter Licht, *Industrializing America: The Nineteenth Century* (Baltimore: Johns Hopkins University Press, 1995); Anthony F. C. Wallace, *Rockdale: The Growth of an American Village in the Early Industrial Revolution* (New York: Alfred A. Knopf, 1978); and George Rogers Taylor, *The Transportation Revolution, 1815-1860* (New York: Holt, Rinehart, & Winston, 1951) for just a few examples of the scholarship detailing America's social, economic, and technological change during the early nineteenth century.

transferred to new institutions such as schools and hospitals.⁹ The movement away from family economies toward wage labor jobs and the incipient erosion of community bonds meant that madness was no longer easily addressed in informal ways associated with communities where familiarity was paramount.¹⁰ Coinciding with the nascent urbanization and industrialization of this period was the introduction in the United States of a new conceptualization of madness and its management, rooted in the European Enlightenment of the mid- and late eighteenth centuries. Of particular note were the ideas of the French physician Philippe Pinel, best remembered for his therapeutic innovations in the treatment of the insane. Rejecting traditional means for dealing with mental illness, such as bleeding, corporal punishment, and confinement, Pinel pioneered what he termed *traitement moral*, which would later be known as “moral treatment” or “moral management” in the United States and England. The key to treating insanity, Pinel reasoned, lay in the power of a well-ordered asylum that could provide patients with an environment conducive toward effecting psychological changes to allow them to recover.¹¹

The ideas of Pinel and his counterparts soon found their way across the Atlantic, where they crossed paths with the reform movements associated with the Second Great

⁹ On the emergence of the hospital as an institution in the United States, see Charles E. Rosenberg, *The Care of Strangers: The Rise of America's Hospital System* (1987; reprint, Baltimore: Johns Hopkins University Press, 1995). The modern hospital familiar to most readers, as an acute care facility, is mainly a product of the late nineteenth and twentieth centuries. However, Rosenberg stresses that many of the essential features of the institution were already discernable during the antebellum period. On the twentieth-century American hospital, see Rosemary Stevens, *In Sickness and in Wealth: American Hospitals in the Twentieth Century*, revised edition (Baltimore: Johns Hopkins University Press, 1999); and Morris J. Vogel, *The Invention of the Modern Hospital: Boston, 1870-1930* (Chicago: University of Chicago Press, 1980).

¹⁰ Grob, *Mad among Us*, 23-25, 87-88.

¹¹ Ibid., 27. For more about Pinel, see Jan E. Goldstein, *Console and Classify: The French Psychiatric Profession in the Nineteenth Century* (1987; reprint, Chicago: University of Chicago Press, 2001), 64-119.

Awakening of antebellum America. Private institutions such as McLean Asylum, Friends' Asylum, and Hartford Retreat opened in the Northeast between 1811 and 1822. The establishment of these new institutions for the mentally ill was coupled with the ongoing development of psychiatry as a medical specialty during this same period. Indeed, the identity of the physicians who worked in these hospitals became inextricably linked with the notion that asylums were places where insanity could be cured and where medical expertise and discipline were paramount.¹²

Care for the mentally ill soon shifted from private to state-run facilities, and what had begun as small asylums were transformed into crowded, understaffed hospitals before the end of the nineteenth century. As historian Edward Shorter has observed of this phenomenon, asylums became “warehouses in which any hope of therapy was illusory.”¹³ The number of people confined to these institutions grew dramatically, some historians have contended, because the incidence of mental illness actually increased over the course of the century.¹⁴ The growth of the psychiatric population throughout the nation's asylums and hospitals that began during the second half of the nineteenth century would persist until World War II and did not abate decisively until the deinstitutionalization movement of the postwar era.

¹² Grob, *Mad among Us*, 23-53.

¹³ Shorter, *History of Psychiatry*, 65.

¹⁴ Ibid., 62-63. The issue of whether mental illness became more prevalent during the nineteenth century has fueled one of most heated debates in the history of psychiatry. Historians commonly agree that the century saw an increased incidence of neurosyphilis and the insanity it produced, and many agree that drinking-related psychosis was also more common during this era. However, vociferous debates have emerged on the subject of schizophrenia, typified by historian Edward Hare's assertion that schizophrenia is relatively recent in origin and resulted in increased admissions to mental hospitals throughout the nineteenth century, as well as scholar Andrew Scull's rejoinder that increasing numbers of people in institutions may be explained by expanding boundaries of what constituted mental illness and medicalization of certain behaviors as madness. For a deeper discussion on the history of neurosyphilis and its treatment, see Braslow, *Mental Ills and Bodily Cures*, 71-94.

A case in point is the famous, or rather infamous, mental hospital in Milledgeville, Georgia. Approved by the Georgia General Assembly in 1837 and opened in Georgia's then state capital in 1842, the "State Lunatic, Epileptic, and Idiot Asylum" coincided with many of the reform efforts that swept through Georgia and the nation during the antebellum period.¹⁵ During its earliest years, the asylum at Milledgeville adhered to the "institution as family" model espoused by its superintendent Dr. Thomas Green. Chief of a model therapeutic asylum, Green was renowned for dining with patients and eliminating patient restraints. However, the institution found itself increasingly strained by a rising population in the decades following the Civil War. As a sign of its increasing custodial function, the Milledgeville asylum in 1872 had a ratio of 112 patients for every physician. In response to the new realities of a massive psychiatric population, abetted by Georgia communities' practice of sending unwanted or problematic patients to the facility, the institution was renamed the Georgia State Sanitarium in 1897. The number of patients soared to over 10,000 by 1950, making it the largest mental hospital in the nation.¹⁶ Perhaps more odious was its reputation for insulin shock and electroconvulsive therapy (ECT) as means of discipline, the latter of which was nicknamed the "Georgia Power Cocktail."¹⁷ Only with the advent of more efficacious pharmacological therapies beginning in the 1950s, as well as a move toward deinstitutionalization during the 1960s, did the number of committed patients begin to

¹⁵ David H. Payne, "Central State Hospital," *New Georgia Encyclopedia* (February 10, 2006), <http://www.georgiaencyclopedia.org/nge/Article.jsp?id=h-1222> (accessed June 10, 2009).

¹⁶ Ibid.

¹⁷ For this more critical view, see Peter G. Cranford, *But for the Grace of God: The Inside Story of the World's Largest Insane Asylum, Milledgeville!* (Augusta, GA.: Great Pyramid Press, 1981). A more nuanced interpretation of how these somatic therapies served both as medical interventions and means of discipline is provided by Braslow in *Mental Ills and Bodily Cures*.

decrease. As a sign of a new decentralized model for treating the mentally ill in Georgia during the postwar era, the institution was renamed Central State Hospital in 1967. Yet the history of the Milledgeville institution is not so exceptional; rather, it is quite demonstrative of trends experienced by many state-run mental hospitals during the late nineteenth and early twentieth centuries.¹⁸

The first half of the twentieth century was marked by two major trends in the care of madness. First, there was a steep rise in the number of patients hospitalized for mental illness. Between 1903 and 1933, the population more than doubled in the United States, from 143,000 to 366,000.¹⁹ The overwhelming majority of these patients could be found in public institutions with 1,000 beds or more. A second development was the introduction of new somatic therapies. Some treatments, such as hydrotherapy, served ostensibly as a means to discipline patients. A handful of somatic therapies, such as the use of malarial fever therapy to treat neurosyphilis, were almost indisputable in their efficacy. Others, however, offered mixed results. While treatments such as insulin coma or Metrazol shock therapy may have provided some indication of efficacy to the clinicians who administered them, their benefits were often irresolute or took an incredible toll on the patient. No intervention was more illustrative of this reality than psychosurgery. Historian Jack Pressman notes that for many psychiatrists in the mid-twentieth century, lobotomy represented “human salvage” to “reclaim – if just partially –

¹⁸ For more on the history of asylums during the late nineteenth and early twentieth centuries, see Nancy Tomes, *A Generous Confidence: Thomas Story Kirkbride and the Art of Asylum Keeping, 1840-1883* (New York: Cambridge University Press, 1984); Ellen Dwyer, *Homes for the Mad: Life inside Two Nineteenth-Century Asylums* (New Brunswick, NJ: Rutgers University Press, 1987); Richard W. Fox, *So Far Disordered in Mind: Insanity in California, 1870-1930* (Berkeley: University of California Press, 1978); and Grob, *Mental Illness and American Society*.

¹⁹ American Psychiatric Association, *One Hundred Years of American Psychiatry* (New York: Columbia University Press, 1944), 150-151, cited in Shorter, *History of Psychiatry*, 190.

souls that otherwise would be forever consigned to the darkness of the nation's asylums.”²⁰ While Joel Braslow reminds historians that such therapies carried the onus of discipline as much as treatment, Pressman likewise emphasizes that psychosurgery must be remembered within the social, political, and even economic contexts within which it was performed. The procedure allowed many institutionalized patients to return home to their families and may have saved the taxpayers millions of dollars by alleviating them of the burden of “taxeaters” at a time when no other effective treatments were available for psychosis. Yet even proponent Walter Freeman cautioned that lobotomies were the “last resort” for patients due to the high toll they took on their bodies and minds.²¹

Postwar Institutional Psychiatry and the Pharmacological Revolution

In most respects, care of the mentally ill on the eve of the Second World War appeared little different than it had a century earlier. Despite the introduction of somatic therapies during the first half of the twentieth century, they helped too few patients and proved ineffective at providing decisive cures for the remainder. Nor could such treatments alleviate overcrowded, understaffed mental hospitals throughout the nation. Historians of psychiatry have rightly described the period leading up to the conflict as the nadir of institutional psychiatry in America, a trough that had been a long time in the making. Following the war, psychiatric treatment would experience a profound transformation.

The seeds for change were sowed during the 1920s and 1930s, when reformers began to engage the state governments in charge of the hospitals and clamor for

²⁰ Pressman, *Last Resort*, 206.

²¹ For a biography of Walter Freeman, see Jack El-Hai, *The Lobotomist: A Maverick Medical Genius and His Tragic Quest to Rid the World of Mental Illness* (Hoboken, NJ: John Wiley & Sons, 2005).

substantive reform. Psychiatrists acting through their chief professional organization, the American Psychiatric Association (APA), began to push the issue of state regulation of mental hospitals. They were joined in this effort during the 1930s and 1940s by muckrakers who called attention to the severe institutional deficiencies and the terrible conditions in which many patients lived. The most famous of these crusaders included journalist Albert Deutsch, activist Mike Gorman, and novelist Mary Jane Ward, whose articles and books detailed the horrors of the nation's worst mental hospitals while placing the blame for them at the feet of state governments.²²

Notable as these nascent efforts at reform may have been, they were ultimately fruitless. Rather, it required the seismic political, scientific, and social shifts brought by the Second World War to realize lasting improvements in institutional psychiatry. Historian Gerald Grob has observed that the war was important for two reasons. First, the war altered the experiences of military psychiatrists by illustrating that psychiatric disorders were more pervasive than originally believed and for revealing the role that environmental factors—the stress of combat—played in their onset. Even more important, however, was the success of noninstitutional therapy in the management of soldiers suffering from mental breakdown. Victims of combat fatigue were frequently treated at company aid stations by military physicians, many of whom were surgeons trained in “first-aid psychiatry” by military psychiatric consultants. Emphasis was placed upon caring for psychiatric casualties in the field among their comrades, so that as many

²² Grob, *Mad among Us*, chap. 7. Albert Deutsch's book *The Shame of the States* was among the most famous calls for reform of the nation's asylum system. See Albert Deutsch, *The Shame of the States* (New York: Harcourt, Brace, 1948). Mental health lobbyist Mike Gorman wrote a series of articles on Oklahoma's troubled asylums. For one example, see Mike Gorman, “Oklahoma Attacks Its Snakepits,” *Reader's Digest* 53 (September 1948): 139-160. Finally, Mary Jane Ward's novel *The Snake Pit* (New York: Random House, 1946) brought the horrible conditions of the nation's mental hospitals to the attention of the American public at large, especially after it was adapted for a 1948 film of the same name, starring Olivia de Havilland.

as possible could return to service. The success of this technique and the experiences of psychiatrists who served in the military helped lay the groundwork for new approaches to civilian mental patients after the war. Rather than treat patients in an institutional setting such as the asylum or mental hospital, one that implied removing the person from society, emphasis was placed on caring for the patient within his community-at-large, where he could receive support from family and friends. This mode of psychiatry eventually became known as community psychiatry.²³

A second outcome of World War II was the increased role of the federal government in setting policy, especially as it pertained to science and medicine. As the war against fascism gave way to the Cold War against communism, the involvement of the federal government in funding and directing medical research grew. Of particular importance to mental health care in the United States was the passage of the National Mental Health Act in 1946 and the formal establishment of the National Institute of Mental Health (NIMH) three years later. With these actions, the federal government became a primary driver for establishing new models of understanding and treating mental illness in the United States.²⁴

²³ Ben Shephard, *A War of Nerves: Soldiers and Psychiatrists, 1914-1994* (Cambridge, MA: Harvard University Press, 2001) provides an excellent overview of military psychiatry during the twentieth century. Much like Grob, Shephard concludes that American psychiatrists during World War II came to understand nervous breakdown after prolonged combat as a common reaction of previously well-adjusted individuals to the extraordinary stresses of warfare. In response to what they termed “war neurosis,” “combat stress,” or “combat fatigue,” first-psychiatrists administered short-term psychotherapy near the front lines. Aided by an expectation of recovery on the part of the physician, these interventions successfully alleviated symptoms in many casualties. Shephard notes that these ideas were formulated as the principles of proximity, immediacy, and expectancy (PIE), which would later influence psychiatry’s response to mental illness and trauma. See also, Paul Wanke, “American Military Psychiatry and Its Role among Ground Forces during World War II,” *Journal of Military History* 63, no. 1 (January 1999): 127-146.

²⁴ Gerald N. Grob, “The Forging of Mental Health Policy in America: World War II to New Frontier,” *Journal of the History of Medicine and Allied Sciences* 42, no. 4 (October 1987): 410-446.

Accompanying the establishment of community-based care programs and the heightened role of federal policymaking was a third development: the rise of psychopharmacology and the introduction of new drugs to treat mental illness. In his survey of the postwar United States, historian James T. Patterson has called attention to the “grand expectations” that Americans had for this period. While the Cold War era was punctuated by the problems of political extremism associated with McCarthyism, ongoing racism amidst the Civil Rights Movement in the South, and a looming perception of conformity in America’s suburbs, Patterson also highlighted the social, political, and economic progress made in the decades following World War II.²⁵ New drugs to treat illness were counted among the greatest successes of the era.

Vannevar Bush, an engineer who had served as the head of the Office of Scientific Research and Development (OSRD) during World War II, best encapsulated the postwar enthusiasm for scientific, technological, and medical progress. With the dissolution of OSRD following the war, Bush pushed for a similar agency in the civilian realm. In his 1945 report to the President, *Science: The Endless Frontier*, Bush touted the need for basic research to continue technological progress. He dedicated Chapter 2 of his report, “The War against Disease,” specifically to the medical advances made during the war and to outlining the problems still facing the nation. Bush credited the role of new pharmaceuticals in helping to conquer diseases and called for additional research to support new drugs. At the same time, he pointed to an increase in mental disease as a clarion call for postwar medical science. According to Bush, approximately 7 million

²⁵ James T. Patterson, *Grand Expectations: The United States, 1945-1974* (New York: Oxford University Press, 1996), 67-70, 313-320, 419-422. In applying Patterson’s interpretation to postwar American psychiatry, I follow an example set by Tone in her study of the minor tranquilizers in *The Age of Anxiety*.

Americans in 1945 were mentally ill, and they occupied more than one-third of the nation's hospital beds, at a cost of \$175 million a year. Without decisive intervention, this population would grow unchecked at the rate of 125,000 new inpatients per year.²⁶

Bush's vision for a civilian equivalent of OSRD was eventually realized with the founding of the National Science Foundation (NSF) in 1950. As with the creation of NIMH a year earlier, the NSF's establishment symbolized the increasing role of federal funding and policies to support science, technology, and medical research. This involvement, based partly in the optimism of scientific research to address social needs and partly as a response to threats posed by the expansion of communism, typified federal science policy during the Cold War era.²⁷

In his study of the American medical profession, Paul Starr has contended that by the mid-twentieth century, the pharmaceutical industry had already become an essential part of the American medical system and key to the profession's dominance.²⁸ Historians from Robert Bud to Louis Galambos have pointed to the bounties of the pharmaceutical industry, beginning in earnest with the penicillin, as one of the most important developments of Cold War science and medicine.²⁹ Antibiotics have deservedly received much of this attention because of the lives and limbs they saved during World War II, as

²⁶ Vannevar Bush, *Science: The Endless Frontier, A Report to the President by Vannevar Bush, Director of the Office of Scientific Research and Development, July 1945* (Washington, DC: Government Printing Office, 1945), 13-16.

²⁷ For more on Vannevar Bush, see G. Paschal Zachary, *Endless Frontier: Vannevar Bush, Engineer of the American Century*, MIT Press ed. (Cambridge, MA: MIT Press, 1999). For more on science during World War II and the Cold War, more generally, see Stuart W. Leslie, *The Cold War and American Science: The Military-Industrial-Academic Complex at MIT and Stanford* (New York: Columbia University Press, 1993); and Thomas P. Hughes, *Rescuing Prometheus: Four Monumental Projects that Changed the Modern World* (1998; reprint, New York: Vintage Books, 2000).

²⁸ Paul Starr, *The Social Transformation of American Medicine: The Rise of a Sovereign Profession and the Making of a Vast Industry* (New York: Basic Books, 1982), 26-28.

²⁹ Bud, *Penicillin*, and Galambos, *Networks of Innovation*.

well as the civilians they spared from infectious diseases in the years following the war. Psychiatry was also among those medical specialties that benefited most from the advances in pharmaceutical science.

Developed by the French company Rhône-Poulenc and introduced to North America in 1954 by SKF as Thorazine, the antipsychotic drug chlorpromazine transformed therapeutics in psychiatry. As historian Edward Shorter has noted, its arrival heralded “the era of psychopharmacology.”³⁰ Chlorpromazine was effective in the treatment of schizophrenia, which was arguably the most visible of the psychoses. While the medication did not cure institutionalized patients of their diseases, it alleviated their symptoms sufficiently enough that they were able to carry on relatively normal lives outside of hospitals.³¹ Though initially derided by some critics as nothing more than another sedative, chlorpromazine had a genuine calming and restorative effect on these hallucinating and deluded patients.³² In the years immediately following World War II, physicians attempted with varying degrees of success to use drugs such as barbiturates and amphetamines to alleviate the symptoms of their patients.³³ But whatever misgivings critics held about chlorpromazine, it is clear that until its introduction, physicians were

³⁰ Shorter, *History of Psychiatry*, 255.

³¹ Ibid.

³² Healy, *Antidepressant Era*, 46.

³³ Jacques S. Gottlieb and Frank E. Coburn, “Psychopharmacologic Study of Schizophrenia and Depressions: Intravenous Administration of Sodium Amytal and Amphetamine Sulfate Separately and in Various Combinations,” *Archives of Neurology and Psychiatry* 51, no. 3 (March 1944): 260-263; Jacques S. Gottlieb, Howard Krouse, and Arthur Freidinger, “Psychopharmacologic Study of Schizophrenia and the Depressions. II. Comparison of Tolerance to Sodium Amytal and Amphetamine Sulfate,” *Archives of Neurology and Psychiatry* 54, no. 5 (November 1945): 372-377; and Jacques S. Gottlieb, Francis S. Bobbitt, and Arthur W. Freidinger, “Psychopharmacologic Study of Schizophrenia and Depressions. VI. Differences in Response to Sodium Amytal and Benzedrine Sulfate,” *Psychosomatic Medicine* 14, no. 2 (March-April 1952): 104-114.

often disappointed about other drugs' lack of efficacy for treating their most serious cases. Within several years, chlorpromazine would be followed by other notable psychopharmaceuticals: the antipsychotic reserpine, the anxiolytic meprobamate, the tricyclic antidepressant imipramine, and the psychostimulant methylphenidate. The last of these drugs, marketed by Ciba as Ritalin, would play an underappreciated role in institutional psychiatry during the 1950s and 1960s.

Enter, Ritalin: An Analeptic for Psychiatry

The therapeutic effects of chlorpromazine fueled great enthusiasm for the drug and its administration to mentally ill patients, often without regard to specific diagnoses. Such efforts were aided by SKF, which lobbied state legislatures for the medication's adoption in institutions.³⁴ Even mental health activist Mike Gorman, who had fought for hospital reform in the late 1940s lent his support to the cause through the publication of his 1956 book *Every Other Bed*, which lamented that every other hospital bed in America was occupied by a psychiatric patient. Gorman touted the benefits of the new pharmacotherapies and called for their expanded use as a way to alleviate the burdens weighing down state mental hospitals.³⁵ The role of the pharmaceutical industry, legislators, and even investigative journalists in promoting these new "wonder drugs" suggests a broader political economy of pharmacotherapy that was not limited to the physicians who prescribed medicines. Yet if there was immense enthusiasm among public proponents of chlorpromazine, it was apparent to clinicians in the back wards that

³⁴ Swazey, *Chlorpromazine in Psychiatry*, 201-209. Psychiatrist Frank Ayd, Jr., an important figure in the early applications of methylphenidate, recalled that he and colleague Nathan Kline had also vigorously supported the federal and state government's introduction into institutional settings on the basis of efficacy and cost savings.

³⁵ Mike Gorman, *Every Other Bed* (Cleveland: World Publishing Company, 1956).

the drug was far from perfect. As two psychiatrists commented about the ubiquitous nature of chlorpromazine,

shortly after the advent of tranquilizing agents as a therapeutic weapon in the new chemotherapy of severe mental states, particularly psychoses, it was noted that there was often an unpredictable aggravation of already existing and observable depressions, or even production of depressions where no such reaction had been observed clinically.³⁶

Looking around her own hospital in Whitfield, Mississippi, Dr. Veronica Pennington noted the varying effects of the drug on different patients:

In our psychiatric hospital housing 4,500 patients, hundreds of patients have been returned to their homes as a result of the use of one or more ataraxics. More hyperkinetic, active, assaultive, noisy patients are represented in this group than any other type, leaving a residue of dull, inert, withdrawn, apathetic, depressed patients. The tranquilizing drugs frequently increase the inertia and lassitude of these patients and in many cases contribute to their retarded mental and physical activity.³⁷

While chlorpromazine worked wonders to release patients suffering from schizophrenia and mania, these afflicted groups represented only part of the psychiatric population, and the drug did little to help others suffering from conditions such as major depression. Even patients who benefitted most from the drug's effects were subject to untoward effects such as listlessness and fatigue.

To offset these side effects, clinicians such as Pennington sought other medications to help: "We therefore looked about for an analeptic to counterbalance the constitutional or drug induced lethargy and psychomotor retardation."³⁸ Psychiatrists first

³⁶ Frederic T. Zimmerman and Bessie B. Burgemeister, "Action of Methyl-Phenidylacetate (Ritalin) and Reserpine in Behavior Disorders in Children and Adults," *American Journal of Psychiatry* 115, no. 4 (October 1958): 323.

³⁷ Veronica M. Pennington, "Phrenotropic Action of Methylphenidylacetate," *Diseases of the Nervous System* 18, no. 12 (December 1957): 477. Ataraxics refer to major tranquilizers such as chlorpromazine or reserpine.

prescribed amphetamines, most notably Benzedrine, as part of combination therapies for schizophrenics. But they noted that the deleterious side-effects, including jitteriness and anxiety, tended to outweigh potential benefits. While amphetamines would continue to occupy a place in the treatment of depression, Ritalin's entry into psychiatry in 1955 could not have come at a better time for psychiatrists such as Pennington, who sought a milder stimulant to offset chlorpromazine's adverse effects.

Ritalin is the trademark name for methylphenidate, a stimulant of the central nervous system introduced by Ciba Pharmaceuticals and manufactured today by Novartis.³⁹ In attempting to describe its effects and strength, researchers and clinicians during the 1950s and 1960s commonly noted that methylphenidate was "less potent than amphetamine but more so than caffeine."⁴⁰ From a contemporary vantage point, the situation of methylphenidate between caffeine and amphetamine is revealing. While caffeine is legal and unregulated in the United States and many other Western nations, amphetamines are now tightly controlled drugs. Now understood pharmacologically as an

³⁸ Pennington, "Phrenotropic Action," 477. Analeptics here refer to central nervous system stimulants such as amphetamine or methylphenidate.

³⁹ Based in Basel, Switzerland, Ciba was originally established by Alexander Clavel in 1859 as a silk dyeing company. By the turn of the century, Ciba had produced its first pharmaceuticals, including Vioform, an antiseptic drug, and Salen, an anti-rheumatic agent. By the end of the First World War, the company had branched out to textiles and later plastics and insecticides. About the same time Ciba began operations, two other companies, Geigy and Sandoz, were also founded as dye producers in the same town. These three companies did not remain confined in Basel for long. All of them became multinational companies with branches in a number of countries, including the United States. Ciba, Geigy, and Sandoz had a number of reasons for this expansion, including the circumvention of patent laws and evasion of import duties and export taxes. In addition, developments taking place in German patent laws at the turn of the century, whereby the process of discovery rather than the end product was patented, were crucial in solidifying the interest of these companies in pharmaceuticals production. See Healy, *Antidepressant Era*, 19. Perhaps the similar historical trajectories of Ciba, Geigy, and Sandoz and their proximity to one another help explain the companies' mergers: first, as Ciba-Geigy in 1970, and later, with the addition of Sandoz, as Novartis in 1996. For some insights into Ciba-Geigy's operations, see Ciba-Geigy, Ltd., *Ciba-Geigy in the 1970s: Informal Portrait of an Industrial Organism* (Basel: Function Information & Promotion, 1974).

⁴⁰ Council on Drugs, "Methylphenidate Hydrochloride," *Journal of the American Medical Association* 163, no. 16 (April 20, 1957): 1479.

amphetamine-like compound, methylphenidate is closely aligned with amphetamine in terms of its legal status as a controlled substance.⁴¹

In her own hospital, Pennington administered Ritalin to “dull, inert, untidy, mute, depressed, negativistic and catatonic” patients, for whom ECT and drugs such as chlorpromazine did not work.⁴² Ritalin, it was hoped, “would put positive qualities of vim, vigor and vitality into listless, lethargic, negative-quality individuals” who represented the hospital’s “treatment failures.”⁴³ For a number of patients, Ritalin proved effective. One patient, C.B., was described by her doctors as,

extravagan[t] in buying clothing that she would not wear. She preferred seclusion, was self-centered, had auditory hallucinations, thought that radio programs were directed toward her, and had many ideas of reference and persecutory illusions. She felt that she was being followed, that the telephone wires were tapped and Dictaphones were in her house.

On our receiving ward she had not adjusted satisfactorily; was demanding and arrogant, would not associate with the other patients and was not cooperative in ward routine. She took no pride in her personal appearance and had many complaints about the way the hospital was managed; during interview she was sarcastic and evasive.⁴⁴

C.B. had not responded well to treatment, either. Frequent ECT sessions dislocated her jaw despite the precautions that her doctors had taken.⁴⁵ Chlorpromazine by itself had no appreciable effect. Having no other recourse, C.B.’s doctors placed her on a combination

⁴¹ Chapters 5 and 6 take up the issue of controls on amphetamine and methylphenidate in greater detail.

⁴² Pennington, “Phrenotropic Action,” 477.

⁴³ *Ibid.*, 477-78.

⁴⁴ *Ibid.*, 479.

⁴⁵ Because ECT commonly results in bodily convulsions that can result in broken bones and fractured vertebrae, patients are often administered drugs to relax the body. Pennington’s account does not specify exactly what precautions were used, but by the early 1950s, a combination of the drugs succinylcholine (a muscle relaxant and nerve blocker) and short-acting barbiturate methohexital sodium (Brevital) were used as anesthetics in the administration of ECT.

of chlorpromazine and methylphenidate. The addition of Ritalin to her regimen seems to have helped:

Within 8 weeks on this therapy she had improved to a state of apparent normalcy; she ate well without persuasion and gained weight, she took interest in her person and clothing and for the first time since admission eight years before she was smilingly pleasant, agreeable and cooperative. She participated in hospital work and in recreational activities and altogether seemed well adjusted, without further expression of delusional or hallucinatory trends.⁴⁶

After the “several visits required to convince her skeptical family of her improvement,” C.B. was discharged and reported to be “doing well” on a maintenance therapy of chlorpromazine and methylphenidate.⁴⁷ As historians such as Braslow, Pressman, and Grob have observed, the patient’s ability to return home to her family had become a benchmark of successful treatment and desired therapeutic endpoint in postwar America. Thanks to the drug combination, clinicians appreciated how another bed was freed up in an overcrowded mental hospital, and policymakers touted how taxpayers were spared the expense of another ill mind to care for.

Another patient, V.S., had received a B.A. degree, remained single, and earned her living as a highly proficient secretary. She was first admitted in 1950 with a diagnosis of schizophrenia. Doctors gave chlorpromazine and meprobamate to V.S. but to no avail. Then Pennington prescribed her patient 80 milligrams of Ritalin twice a day:

She showed definite improvement within a few days, and two months afterward was able to work full time as a secretary in my office. While she continues to walk slowly, she does not lie about as before, and her secretarial work is quick and accurate; in addition she is socially well adjusted in the hospital regime, keeps well groomed and apparently has no further hallucinations. She states that she feels more relaxed and is sleeping better.⁴⁸

⁴⁶ Pennington, “Phrenotropic Action,” 479.

⁴⁷ Ibid.

⁴⁸ Ibid.

The psychiatrist concluded that many of her patients had benefited from Ritalin therapy: “Improvement following Ritalin therapy ranged from better self-care to restoration to active and substantially better normal life outside the hospital. Verbalization was restored and/or normalized, and many patients reported feeling more ‘alive,’ ‘interested,’ or ‘normal’ than [they had] for a long time.”⁴⁹

Pennington’s assessment of what constituted successful therapy for her patients suggests the complex set of assumptions held by psychiatrists. As Braslow noted in his study of psychiatrists who employed somatic therapies, the “therapeutic rationale” of clinicians, in which physicians constructed a particular condition as a disease and decided upon a particular outcome as a cure, was multifaceted in nature. A somatic intervention’s therapeutic goal could not necessarily be disaggregated from its elements of social management or discipline. As Pennington’s own case demonstrates, the complex set of assumptions held by somatically oriented psychiatrists did not disappear when clinicians turned to pharmacotherapy. On the one hand, Pennington’s own assumptions about the patient, including comments of “extravagance” and a lack of “pride in personal appearance,” surface in her case studies. Just as striking, however, is the genuine interest that doctors such as Pennington had in bettering their patients’ conditions.

Ritalin as an Antidepressant

For readers in the early twenty-first century, no mental condition may be more prominent than depression. However, framing depression as a disorder has been one of the most contentious issues in psychiatry for centuries. Is depression a serious disease

⁴⁹ Pennington, “Phrenotropic Action,” 481. My account here focuses mainly on the qualitative effects that Ritalin had on Pennington’s patients, but she also considered quantitative measures of efficacy. See Veronica M. Pennington, “The Phrenotropic Action of Ritalin as Evaluated by an IBM Rating Scale,” *American Journal of Psychiatry* 114, no. 7 (January 1958): 654-655.

limited to a small group of very ill people? Is it a wide-ranging and far-reaching disorder that affects millions? Is it both? Does depression even exist? These questions, all of which have been posed by historians of medicine and answered in a variety of ways, suggest the fluidity of depression as a concept, let alone a disorder requiring medical care.⁵⁰

In response to scholarship crediting tricyclic antidepressants and monoamine oxidase inhibitors (MAOIs) as the first drugs that decisively treated depressive symptoms, historian Nicolas Rasmussen has deftly argued that amphetamine deserves to be considered as the first antidepressant.⁵¹ Shortly after the introduction of Benzedrine, SKF sought new clinical uses for the drug beyond its initial application as a nasal decongestant. Pivotal to the firm's search for new markets were burgeoning relationships between the industry and clinical researchers during the interwar period. Companies such

⁵⁰ Historical works that have engaged the subject of depression include Stanley W. Jackson, *Melancholia and Depression: From Hippocratic Times to Modern Times* (1986; reprint, New Haven, CT.: Yale University Press, 1990); Christopher M. Callahan and German E. Berrios, *Reinventing Depression: A History of the Treatment of Depression in Primary Care, 1940-2004* (New York: Oxford University Press, 2005); Healy, *Antidepressant Era*; Metzl, *Prozac on the Couch*; Braslow, *Mental Ills and Bodily Cures*, and Shorter, *History of Psychiatry*. In addition to historical works on the subject, other authors have engaged the medical, cultural, social, and economic aspects of depression, its diagnosis, and its treatment. Peter D. Kramer, *Listening to Prozac: The Landmark Book about Antidepressants and the Remaking of the Self* (1993; reprint, New York: Penguin Books, 1997) and Elizabeth Wurtzel, *Prozac Nation: Young and Depressed in America* (New York: Houghton-Mifflin, 1994) are two of the most popular works in this vein. In addition, scholars have engaged conditions considered to be antecedents of the modern depression diagnosis, such as neurasthenia. Scholarship in this area includes F. G. Gosling, *Before Freud: Neurasthenia and the American Medical Community, 1870-1910* (Urbana: University of Illinois Press, 1987) and Marijke Gijswijt-Hofstra and Roy Porter, eds. *Cultures of Neurasthenia: From Beard to the First World War* (New York: Rodopi, 2001).

⁵¹ Regarding his argument that amphetamines deserve to be considered antidepressants, Rasmussen responds in particular to the scholarship of David Healy. While Rasmussen makes a strong case for his argument, it is also worth noting that Healy does not necessarily discount the historical role that stimulants occupied in the treatment of depression. He observes that "Dexedrine and Ritalin are now conventionally thought of as stimulants rather than antidepressants. Following their introduction, they were used to treat nervous states in which fatigue was present....Although the 'antidepressants' came into being as drugs that cured depression in hospital patients, the overwhelming majority of patients with depressive disorders now treated with antidepressants are not hospitalized. In these patients, it is clear that dexamphetamine and methylphenidate are as effective as the SSRI 'antidepressants.'" Healy, *Creation of Psychopharmacology*, 62.

as SKF commissioned studies at this time in order to discern new possibilities for their products. A partnership between the firm and the eminent neurologist and psychiatrist Abraham Meyerson was critical to Benzedrine's successful marketing for depressive symptoms beginning in 1937. Rasmussen has observed how a depressive "symptom complex" termed "anhedonia" by Meyerson was shaped by the company into an indication of "depression." Following the American Medical Association's (AMA) approval, SKF proceeded to promote the drug for depressive symptoms in the 1940s.⁵²

Rasmussen openly relies on an alternate interpretation of the history of psychiatry. The conventional reading of twentieth-century American psychiatry's history holds that the advent of effective pharmacotherapies, beginning in earnest with chlorpromazine, ushered in a new era in which a biologically and pharmacologically oriented psychiatry effectively displaced the hegemony of "dynamic," or psychoanalytically informed, psychiatry by the late 1960s.⁵³ In reality, the process of change within psychiatry has been much more complicated, as Rasmussen has noted. Historian Jack Pressman has called attention to the myriad views that informed psychiatry during the 1930s and 1940s, and historian Joel Braslow reminds us that somatic approaches to mental illness co-

⁵² Rasmussen, "Making the First Anti-Depressant." Rasmussen's work on the early history of amphetamine is closely related to his research on the rise of clinical research and its use by the pharmaceutical industry during the interwar period. For more on this aspect, see Rasmussen, "The Commercial Drug Trial in Interwar America."

Until the passage of the 1962 Kefauver-Harris Amendment to the Federal Food, Drug, and Cosmetic Act, most drugs introduced to the market prior to 1938 were exempt from efficacy testing. For many of these early pharmaceuticals, including SKF's Benzedrine, the main standard of efficacy was participation in the AMA's voluntary "Seal of Approval" program. Under this system, academic researchers evaluated pharmaceutical company data prior to the market introduction of a drug in order to determine efficacious uses. Though not compulsory, the AMA program was important to large firms, as only approved products could be advertised in affiliated journals. See Marks, *Progress of Experiment*, chap. 3. For how this rule affected amphetamines specifically, see Nicolas Rasmussen, "America's First Amphetamine Epidemic, 1929-1971: A Quantitative and Qualitative Retrospective with Implications for the Present," *American Journal of Public Health* 98, no. 6 (June 2008): 974-975.

⁵³ The best example of this interpretation remains Shorter, *History of Psychiatry*.

existed with Freudian theories.⁵⁴ An essential feature of this more nuanced interpretation of twentieth-century American psychiatry is the fact that somatic pragmatism always existed alongside various schools of thought.

The relevance of this more critical look at psychiatry for Rasmussen's work, as well as for mine, has to do with how depression is defined and understood. Historian David Healy has argued that minor depression, as it is now diagnosed and treated, often with selective serotonin reuptake inhibitors (SSRIs) such as Prozac, Paxil, and Zoloft, is a relatively recent phenomenon, one that was solidified with a new classification for psychiatric disorders with the publication of the third edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)* in 1980.⁵⁵ Rasmussen argues that the marketing of Benzedrine in the 1940s for depressive symptoms suggests that the antidepressants are older than has been previously recognized. At issue is how psychiatrists and historians of medicine have chosen to define "depression."

Augmenting Rasmussen's scholarship, I argue that psychiatrists in the 1950s and 1960s turned to psychostimulants to manage a different form of depression historically known as *melancholia*, now generally referred to as "major depression." In contrast to milder forms of depression now commonly treated, major depression is far less common. Before the 1957 advent of imipramine, the first tricyclic antidepressant used to treat major depression, ECT had proven beneficial in helping some patients.⁵⁶ Despite its

⁵⁴ Pressman, *Last Resort*; and Braslow, *Mental Ills and Bodily Cures*.

⁵⁵ David Healy, *Antidepressant Era*. The *DSM*'s evolution since its first edition in 1952 provides an excellent means to track the evolution of depression as a diagnostic category.

⁵⁶ The best introduction to electroconvulsive therapy and its clinical use in psychiatry may be Braslow, *Mental Ills and Bodily Cures*, chap. 5. Also of note is Max Fink, *Electroshock: Restoring the Mind* (New York: Oxford University Press, 1999), chaps. 10 and 11, where the author takes up the subject of ECT's history and its controversial application in greater detail. Fink was a pioneer in the use of ECT in

usefulness, many psychiatrists conceded that ECT was feared by patients and opposed by a public that misunderstood the procedure.⁵⁷ At the same time that Pennington published her study about the uses of Ritalin, David Morgan of the Mental Hospital in Kenmore, New South Wales, Australia, also mulled the potential of combining chlorpromazine with methylphenidate. The difference, however, was that Morgan was concerned with patients suffering from manic depression, for whom ECT had often been the only therapeutic option.⁵⁸

After adding Ritalin to his patients' regimen of chlorpromazine, Morgan noted of one of them, "She has remained well since; she is bright, cheerful and cooperative," while another had made a "continuous and uninterrupted improvement."⁵⁹ More striking to Morgan was the fact that a substantial number of his patients no longer required ECT.⁶⁰ Contemplating this development, he compared the benefits that drugs and ECT had to offer. He believed the forms of treatment were complementary, and that each had unique strengths that made them appropriate for particular clinical needs:

the United States, and has been a strong proponent of its therapeutic value. As the same time, he has written mindfully of the controversies surrounding the therapy. More recent historical work is Edward Shorter and David Healy, *Shock Therapy: The History of Electroconvulsive Treatment in Mental Illness* (New Brunswick, NJ: Rutgers University Press, 2007). This book argues decisively for ECT as an effective therapy. Because it openly discounts critics of ECT at various points, it has been received rather critically by some historians of psychiatry.

⁵⁷ The claim that ECT was feared by patients was made repeatedly by physicians such as David Morgan as one of the reasons for experimenting with a drug compound of chlorpromazine and methylphenidate. However, in his study of psychiatry at Stockton State Hospital, Braslow argues persuasively that patients did not necessarily fear ECT.

⁵⁸ David Morgan, "'Largactil,' 'Ritalin,' and 'Meratran' in the Treatment of Endogenous Psychotic Depression," *Medical Journal of Australia* 44, no. 1 (July 6, 1957): 10. Largactil was the European brand name for chlorpromazine. Meratran was a proprietary version of piperidol, a mild CNS stimulant comparable in many ways to methylphenidate.

⁵⁹ *Ibid.*, 9-10.

⁶⁰ *Ibid.*, 9.

[S]ome patients, when admitted to a mental hospital, are in such a shockingly debilitated condition that it becomes a matter of life and death to restore their internal chemical *milieu* to normal as rapidly as possible. To attain this end, it is most important to have the patients' full cooperation, and in my experience this cooperation may be best obtained with electrotherapy.

However, when the urgency is not paramount, then the use of chlorpromazine and "Ritalin" has many advantages. The patients do not fear taking tablets, whereas many are afraid of electrotherapy, even when it is given in combination with sedatives and muscle relaxants. Also, it is comforting to have an alternative to electrotherapy when one is treating an acutely depressed patient who has an advanced physical illness.⁶¹

Morgan was acutely aware that ECT had a number of detractors, and he understood the need for some other means of treatment that would alleviate the anxieties of patients toward the procedure. Ritalin had demonstrated some effectiveness as an adjunct to ECT, but it was not replacement for the procedure in particularly acute situations. Nevertheless, Morgan was keen to recognize the antidepressant qualities of Ritalin and its potential as an adjunct.

Ritalin's place in psychiatric institutions should also be considered in relation to the development of the tricyclic antidepressant imipramine.⁶² Geigy had pursued imipramine's market potential under the pretense that it was a stimulant, suggesting the value then being placed on this class of drugs.⁶³ Ritalin was not an antidepressant as it is

⁶¹ Morgan, "'Largactil,' 'Ritalin,' and 'Meratran,'" 10.

⁶² For more on the history of imipramine, see Nicholas Weiss, "No One Listened to Imipramine," in *Altering American Consciousness: The History of Alcohol and Drug Use in the United States, 1800-2000*, ed. Sarah W. Tracy and Carol Jean Acker (Amherst: University of Massachusetts Press, 2004), 329-352. The history of the tricyclic antidepressants is also considered in Healy, *Antidepressant Era*, chaps. 2 and 3.

⁶³ As historian David Healy has argued, the notion that imipramine might not be a stimulant was initially distressing Geigy executives who hoped the drug could be marketed as such. Imipramine came to market amidst a great deal of controversy surrounding the specifics of its pharmacological action. While doing early research on imipramine before its market introduction, psychiatrist Roland Kuhn, credited with discovering the drug's antidepressant effects, stressed that imipramine represented an entirely new class of drug, as it was clearly not a stimulant. Executives at Geigy, the company that would bring the drug to market as Tofranil, viewed Kuhn's findings as problematic, having to "grapple with the idea of a drug that lifted mood without being a stimulant" and "would only be of use in a limited number of depressive states

now understood today, but it fulfilled that role in the minds of those physicians who sought a way to alleviate their patients' depressive symptoms. More to the point, Ritalin satisfied the needs of clinicians in the interim before the introduction of the first tricyclic antidepressants. In one of its first major applications, it had proven itself useful. As one group of psychiatrists noted, even after the first tricyclic antidepressants had been introduced for major depression,

methylphenidate has a place in our armamentarium as a symptomatic treatment, an adjunctive treatment, and in some cases a definitive treatment, of depressive reactions of many types. At times it might serve as a useful stop-gap procedure while attitudinal barriers to E[C]T are being removed. At other times it might furnish the necessary motivational stimulus to convince the patient or his family that effective treatments are available and that hospitalization can be accepted. Again, before some other definitive treatment plan has had time to become effective, transient lifting of the depression with intravenous methylphenidate is indicated to facilitate some particular clinical or nursing procedure....In no way do we consider methylphenidate a disease-specific treatment but we see it as a useful CNS-stimulating drug, that is capable of counteracting the symptoms of depression....as a part of the total picture in many diagnostic categories.⁶⁴

In 1960, even as drugs such as imipramine were beginning to replace the combination of chlorpromazine-methylphenidate, Ritalin apparently still retained a place within the therapeutic armamentarium of psychiatrists treating major depression. Its value as an alternative therapy, especially for those patients too weak or resistant to ECT, made it clinically promising for some psychiatrists.

Aware of its successful use as an antidepressant for those patients suffering from the worst cases of mental illness, Ciba expanded this market by promoting Ritalin use within institutional psychiatry. A 1957 advertisement (see Figure 2.1) touted the

and indeed that its benefits would be most marked in those depressions that were known to respond to ECT—a rather small market.” See Healy, *Antidepressant Era*, 58.

⁶⁴ Carl D. Koutsky, Floyd Westendorf, and Paul Bransford, “High Dosage Methylphenidate for Depression,” *Diseases of the Nervous System* 21, no. 5 (May 1960): 277.

medication's potential to bring schizophrenic patients "out of the corner" by "awaken[ing] [them] to reality." Of particular interest was the way in which the drug was also indicated for "true depressives (negative, withdrawn, dull, listless, apathetic)." Another advertisement (see Figure 2.2) from around the same time also indicated Ritalin's potential to treat "mild to moderate depressions" in both neurotic and psychotic patients.⁶⁵ In its marketing of Ritalin for depression, Ciba appears to have relied especially on the initial clinical research efforts of John Ferguson, a Michigan psychiatrist who reported some of the earliest findings of the drug's applications in the *Journal of the American Medical Association (JAMA)*.⁶⁶

⁶⁵ As I observe in the next chapter, the simultaneous indication of stimulants such as Ritalin for both psychosis and neurosis suggests some permeability between institutional and outpatient psychiatry during the immediate postwar era, especially where depression and its management were concerned.

⁶⁶ John T. Ferguson et al., "Methylphenidate (Ritalin) Hydrochloride Parenteral Solution: Preliminary Report," *Journal of the American Medical Association* 162, no. 14 (December 1, 1956): 1303-1304.



you can bring patients
“out of the corner”

with **Ritalin**[®]
hydrochloride
(methylphenidate hydrochloride CIBA)

provides needed stimulation . . .
without euphoria or depressive rebound

Ritalin has proved effective in awakening patients to reality, even in “severe deteriorated chronic schizophrenia of long standing.”¹ The most responsive patients to Ritalin appear to be the true depressives (negative, withdrawn, dull, listless, apathetic)—without correlation to age or length of hospitalization.² On 10 to 40 mg. Ritalin t.i.d., such patients become more amenable to therapy, suggestion, and social participation.²

1. Leake, C. D.: Ohio M. J. 52:369 (April) 1956. 2. Ferguson, J. T.: Ann. New York Acad. Sc. 61:101 (April 15) 1955.

C I B A
SUMMIT, N. J.

Figure 2.1 – 1957 advertisement for Ritalin for schizophrenia and depression, “You can bring patients ‘out of the corner.’” (Source: March 1957 issue of *Hospital and Community Psychiatry*. The author thanks Ben Hansen for this image.)

AROUSE THE DEPRESSED PSYCHIATRIC PATIENT



Ritalin®

hydrochloride
(methyl-phenidylacetate hydrochloride CIBA)



Ritalin is a mild, safer cortical stimulant which is particularly "efficacious in the treatment of mild to moderate depressions in neurotic and psychotic patients."

When Ritalin was given for 6 months to 127 withdrawn, dull, listless, apathetic, or negativistic institutionalized patients, 101 showed improvement in behavior and manageability. "Many returned to normal eating and toilet habits almost simultaneously with evidence of mental awakening. . . ."

In depressed states Ritalin provides needed stimulus without the wide swings of reaction caused by most stimulants. *It rarely causes palpitation, jitteriness, or hyperexcitation; has no appreciable effect on blood pressure, pulse rate or appetite.*

Dosage: 10 to 20 mg. b.i.d. or t.i.d., adjusted to the individual. **Supplied:** TABLETS, 5 mg. (yellow) and 10 mg. (blue); bottles of 100, 500 and 1000. TABLETS, 20 mg. (peach-colored); bottles of 100 and 1000.

References: 1. Noe, R. H., and Williams, D. B.: Personal communication. 2. Ferguson, J. T.: Paper presented at American Society for Pharmacology and Experimental Therapeutics, Iowa City, Iowa, Sept. 9, 1955.

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Figure 2.2 – 1956 advertisement for Ritalin for mild to moderate depression, "Arouse the depressed psychiatric patient." (Source: November-December 1956 issue of *Psychosomatic Medicine*. The author thanks Ben Hansen for this image.)

Ciba's Own Combination Drug: Serpatilin

While the combination of chlorpromazine and methylphenidate was touted as beneficial to those patients suffering from depressive states, other combination therapies also held promise. Just as SKF had introduced Thorazine onto the market, researchers at Ciba had managed to isolate an active salt in the Indian root *Rauwolfia serpentina*, which had been used for thousands of years to treat disorders ranging from hypertension to insanity. Ciba named the new compound reserpine, and one of the firm's researchers, F. F. Yonkman, utilized the term "tranquilizer" to describe its effects. Psychiatrist Nathan Kline urged the company to support a large study of 710 patients to test its efficacy, and reserpine's potential as an antipsychotic was soon realized.⁶⁷

It did not take Ciba long to bring reserpine to market as Serpasil. Like chlorpromazine, reserpine proved effective in a number of patients suffering from psychosis, but it did little for those from depression. In April 1956, Dr. C. H. Carter published one of the first studies examining the combined effects of reserpine and methylphenidate. Among the functions Carter identified for methylphenidate was its ability to offset over-sedation from reserpine. He also noted methylphenidate's counteraction of the "marked lethargy and dullness" that resulted from the high levels of anticonvulsants, as well as the symptoms of organic brain damage among institutionalized epileptics.⁶⁸ Just as they had done with chlorpromazine, psychiatrists combined reserpine with methylphenidate to expand the therapeutic usefulness of this

⁶⁷ Healy, *Antidepressant Era*, 64.

⁶⁸ C. H. Carter, "The Effects of Reserpine and Methylphenidylacetate (Ritalin) in Mental Defectives, Spastics, and Epileptics," *Psychiatric Research Reports of the American Psychiatric Association* 4 (April 1956): 47. See also, Maria L. Madi and B. Kovitz, "Experiences with Methylphenidylacetate Hydrochloride (Ritalin) in Psychotic Patients," *Antibiotic Medicine and Clinical Therapy* 3, no. 5 (October 1956): 309-311.

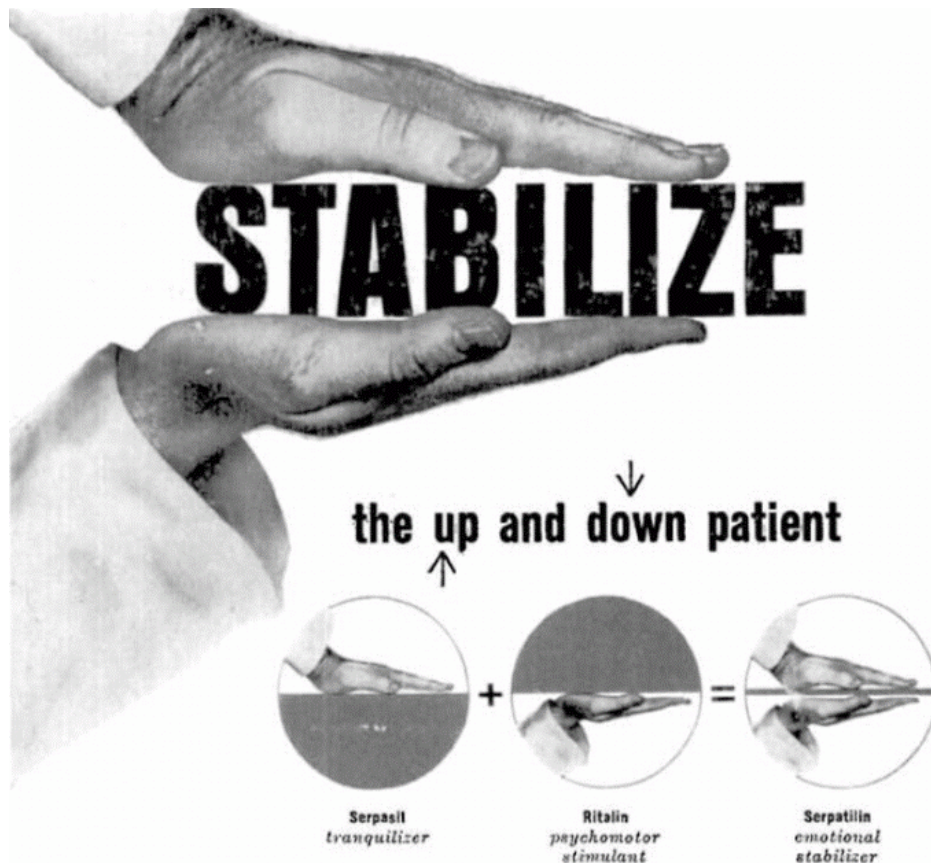
latest antipsychotic. The difference, however, is that rather than combining Ritalin and Thorazine, drugs made by two different companies, clinicians were prescribing Ritalin and Serpasil, both products of Ciba. The company made the most of the opportunity to have Ritalin associated with their own Serpasil rather than SKF's drug, and it went to great lengths to promote the combination of Ritalin and Serpasil in psychiatric use. Ciba Pharmaceutical Products' Research Department even published several studies suggesting the potential of the combination therapy.⁶⁹

That same year, Ciba introduced Serpatilin, the first of two known Ritalin combination drugs (See Figure 2.3). Marketed as a "new emotional stabilizer," the drug was among the first to combine a major tranquilizer and stimulant: "With Serpatilin the calming, relaxing action of Serpasil releases patients from nervousness and stress, while the mood-lifting, antidepressant effect of Ritalin stimulates them gently and brightens their mental outlook."⁷⁰ The complementary action of the methylphenidate and reserpine contained in Serpatilin enabled the drug, its manufacturer claimed, to "lessen anxiety and tension and increase alertness; alleviate depression, nervousness, and chronic fatigue; lift mood gently and smoothly without letdown; promote desire to participate socially and improve behavior; maintain emotional stability and a sense of well-being."⁷¹ That Ciba introduced Serpatilin so soon after Ritalin further suggests one of the predominant uses of methylphenidate during its earliest years.

⁶⁹ For one such example, see A. J. Plummer, R. A. Maxwell, and A. E. Earl, "The Influence of Ritalin (Methylphenidate) on the Behavioral and Circulatory Effects of Reserpine," *Schweizerische Medizinische Wochenschrift* 87, suppl. 14 (April 7, 1957): 370-374.

⁷⁰ "Serpatilin," *Physicians' Desk Reference*, 11th ed. (Oradell, NJ: Medical Economics, 1957), 442. Hereafter cited as 1957 *PDR*.

⁷¹ "Serpatilin," *CIBA Drug Catalogue* (Summit, NJ: Ciba Pharmaceutical Company, 1962), 120, Catalogue Collection, Kremers Reference Files, American Institute for the History of Pharmacy, University of Wisconsin, Madison, WI.



STABILIZE

the up and down patient

Serpasil tranquilizer + Ritalin psychomotor stimulant = Serpatilin emotional stabilizer

To induce emotional equilibrium in those who swing from anxiety to depression, Serpatilin combines the relaxing, tranquilizing action of Serpasil with the mild mood-lifting effect of the new cortical stimulant, Ritalin. In recent months, numerous clinical studies have indicated the value of combining these agents for the treatment of various disorders marked by tension, nervousness, anxiety, apathy, irritability and depression. Arnoff,¹ in a study of 51 patients, found the combination of definite value in a variety of complaints, noting no effect on blood pressure or heart rate. Lazarte and Petersen² also found Serpatilin effective in counteracting the side effects of reserpine and chlorpromazine. They reported: "The stimulating effect of Ritalin seemed complementary to the action of reserpine . . . in that it brought forth a better quality of increased psychomotor activity."

1. Arnoff, B.: Personal communication. 2. Lazarte, J. A., and Petersen, M.C.: Personal communication.

Serpatilin Tablets, 0.1 mg./10 mg., each containing 0.1 mg. Serpasil® (reserpine CIBA) and 10 mg. Ritalin® hydrochloride (methyl-phenidylacetate hydrochloride CIBA).

Dosage: 1 tablet b.i.d. or t.i.d., adjusted to the individual.

C I B A
SUMMIT, N. J.

Serpatilin^{T.M.}

(reserpine and methyl-phenidylacetate hydrochloride CIBA)

Figure 2.3 – 1956 advertisement for Serpatilin, “Stabilize the up and down patient.”
(Source: May-June 1956 issue of *Psychosomatics*. The author thanks Ben Hansen for this image.)

One fascinating aspect about the history of Serpatilin, and one which foreshadowed the trajectory of Ritalin in the decade to come, involved its broadened indications during its brief market lifespan. Originally, the drug was intended for the most severe forms of psychiatric illness, especially “emotionally disturbed states marked by anxiety-tension, depression and lethargy, and chronic fatigue.”⁷² However, within five years of its introduction, Ciba marketed the drug for a variety of conditions, several of which fell outside the exclusive purview of psychiatry, including chronic fatigue and mild depression, lethargy, menopausal syndrome, and apathetic behavior.⁷³ There exists no available evidence to suggest how such a repositioning of the drug may have taken place, but it does seem probable that the manufacturer played the leading role in widening the drug’s potential uses and increasing the likelihood that general practitioners and other specialists besides psychiatrists would prescribe it. This mainstreaming of Serpatilin was short-lived. By 1966, less than a decade after its introduction, Serpatilin had been removed from the market.⁷⁴ The drug presumably had become the victim of better antipsychotics for the treatment of schizophrenia and related psychoses, as well as the introduction of the tricyclic antidepressants, which provided better symptomatic improvement for many patients suffering from major depression.

⁷² “Serpatilin,” 1957 *PDR*, 442.

⁷³ “Serpatilin,” *Physicians’ Desk Reference*, 16th ed. (Oradell, NJ: Medical Economics, 1962), 583.

⁷⁴ Knowledge about Serpatilin appears to be scant. Even after a comprehensive survey of the medical literature, I have been unable to locate any articles, advertisements, or references to the drug. Most of my information regarding Serpatilin comes from a survey of the *Physicians’ Desk Reference* from 1957 to 1966, its years on the market. In addition, information provided by available volumes of Ciba’s *Drug Catalogue* provided some additional information about the drug. Despite this limited information, enough evidence exists to infer that during its brief existence on the market, Serpatilin was indicated for an increasing number of conditions.

Ciba's receptivity to a tranquilizer-stimulant combination was not entirely novel, as evidenced by forerunners on the market. One notable example was Rauwidrine, a combination of amphetamine and *Rauwolfia serpentina*, introduced in the early 1950s by Riker Laboratories in Los Angeles.⁷⁵ While one doctor in Glendale, California, observed that it might seem paradoxical to give a stimulant such as amphetamine to patients with anxiety and insomnia, he reasoned that the *Rauwolfia* content tended to counteract whatever unpleasant stimulation the amphetamine was capable of producing. Moreover, he suggested, "many patients manifest anxiety and insomnia as an outward expression of underlying depression. For such patients, the use of Rauwidrine to produce a lift in spirits and a new calm but buoyant mood is eminently logical."⁷⁶ To prove his point, he shared cases of multiple patients who had better "mental outlooks" and "improved spirits." Even better, according to both patient and physician, was an enhanced ability to lose weight and combat obesity on the drug. Whether the case of Riker's Rauwidrine mirrors that of Ciba's Serpatilin is difficult to assess. But it does suggest the importance of combination drug therapies in psychiatric practice at this time, as well as pharmaceutical firms' responsiveness to their potential. Even more striking is that the application of such combinations seemed equally germane to institutional psychiatry, where they augmented the effects of major tranquilizers, as well as outpatient psychiatry, where they apparently benefited patients with anxiety, minor depression, and insomnia.

⁷⁵ Reserpine was first synthesized in 1952, so evidence suggests that Rauwidrine utilized the natural plant version of *Rauwolfia* (Indian snakeroot) in its formulation.

⁷⁶ Granville J. Trinity, "Management of the Depressed Patient," *Medical Times* 82, no. 10 (October 1954): 753-756.

Uppers for “Oldsters”: Stimulant Therapy for Geriatric Populations

By the mid-twentieth century, the infectious diseases that made infancy and childhood the most dangerous stages of life were still common, but the specter of death that accompanied measles, rubella, and other diseases had begun to fade. Child mortality declined and more Americans were reaching adulthood and surviving into old age. Historian Gerald Grob has noted that this phenomenon, termed the “second epidemiological transition” by demographers, had far-reaching consequences for American society and its health.⁷⁷ Chief among these was the change in the age structure of the population and a new emphasis on treating the chronic degenerative diseases of adulthood and old age. Consider that in 1850, only four percent of the population was aged 60 or older, and in 1900, this figure had increased only slightly to six percent. However, by 1995, at least 17 percent of the population could be considered elderly. Such was the impact of this shift toward longer lifespans that cultural historian Howard Chudacoff has called attention to the emergence of “age consciousness,” especially as it related to the growing class of senior citizens.⁷⁸ It probably comes as little surprise that such a profound demographic change was mirrored by the development of gerontology, the science of aging, and its attendant medical specialty, geriatrics.⁷⁹

⁷⁷ Gerald N. Grob, *The Deadly Truth: A History of Disease in America* (Cambridge, MA: Harvard University Press, 2002), 180. See chap. 8, in particular, for an extended discussion of this issue. The “first epidemiological transition” refers to the health consequences that accompanied the shift from hunting-gathering to agricultural societies thousands of years ago, as mankind came into contact with new diseases as a result of a settled lifestyle and increased alteration of the environment.

⁷⁸ Howard P. Chudacoff, *How Old Are You?: Age Consciousness in American Culture* (Princeton, NJ: Princeton University Press, 1989). On the subject of old age in America, see W. Andrew Achenbaum, *Old Age in the New Land: The American Experience since 1790* (Baltimore: Johns Hopkins University Press, 1978); David Hackett Fischer, *Growing Old in America*, expanded ed. (New York: Oxford University Press, 1978); and Thomas R. Cole, *The Journey of Life: A Cultural History of Aging in America* (New York: Cambridge University Press, 1992).

In 1940, only 9 million Americans were 65 or older; authorities expected this figure to increase to 15.5 million Americans by 1960.⁸⁰ Clinicians charged with treating these patients during this time had a wide variety of responses to this development.

Consider one physician, who opined:

In recent years it has become a paradoxical fact that medical achievement has increased rather than lessened one of our major health problems. Advances in surgical and medical techniques and the new knowledge resulting from biologic and pharmaceutical research has so extended the average life span tha[t] an ever-increasing segment of our population is faced with the difficult mental and physical adjustments accompanying old age...

The older personality is characterized by a lowered drive, and feelings of insecurity and inadequacy which frequently cause or aggravate the patient's complaints. One of the primary purposes of any therapy directed toward the aged must be the alleviation of undesirable mental states.⁸¹

In order to address emotional and mental problems faced by aging Americans, geriatric psychiatrists sought pharmacological aids for their patients. In 1944, Jacques Gottlieb, a psychiatrist at the Iowa Psychopathic Hospital and State University of Iowa's College of

⁷⁹ See Laura Davidow Hirshbein, "'Normal' Old Age, Senility, and the American Geriatrics Society in the 1940s," *Journal of the History of Medicine and Allied Sciences* 55, no. 4 (October 2000): 337-362; W. Andrew Achenbaum, *Crossing Frontiers: Gerontology Emerges as a Science* (New York: Cambridge University Press, 1995), and Stephen Katz, *Disciplining Old Age: The Formation of Gerontological Knowledge* (Charlottesville: University Press of Virginia, 1996). Aside from Hirshbein's article on the subject, scholarship on aging has tended to focus more on the history of gerontology, and the history of geriatrics still constitutes a critical research gap. Scholars such as Grob have called attention to the fact that senility within aged patients became part of psychiatry's concern during the twentieth century. Before 1900, the elderly were generally not committed to asylums, even if their abnormal behavior, whether due to Alzheimer's disease, senile dementia, or depression, could be explained with a psychiatric diagnosis. In other words, physicians before this time tended to distinguish between the psychiatric conditions of the elderly and non-elderly. This view changed drastically during the twentieth century, as many more aged people were committed to institutions. Such changes had as much to do with the expanding purview of psychiatry as they did with broader social and economic changes that resulted in the dissolution of traditional family structures that had been responsible for caring for the elderly. See Grob, *Mad among Us*, 117-118.

⁸⁰ Department of Commerce, *Statistical Abstract of the United States* (Washington, DC, Government Printing Office, 1951), 9.

⁸¹ J. Leslie LeHew, "Evaluation of an Amphetamine-Barbiturate Combination in the Supportive Treatment of the Aged," *Journal of the American Geriatrics Society* 2, no. 2 (February 1954): 96.

Medicine, documented his use of barbiturates to alleviate seniors' tension and anxiety.⁸²

A few years later, clinicians reported success in using amphetamines such as Benzedrine to relieve mild depression and enhance mental alertness in their elderly patients.⁸³

While some physicians might have prescribed both stimulants and depressants for the elderly, others harbored doubts. J. Leslie LeHew, a physician at the Masonic Home for the Aged in Guthrie, Oklahoma, expressed such reservations: "It has been [my] experience that these drugs, although occasionally helpful, are of very limited value in the treatment of the elderly. Amphetamines at times unduly increase nervousness and excitability; barbiturates often depress rather than sedate."⁸⁴ But even when voicing their concerns, physicians such as LeHew persisted in their belief that psychopharmacology would eventually help. The appearance of new combination drugs in the 1950s kept these hopes alive.

In 1950, SKF introduced Dexamyl, a combination drug containing dextroamphetamine (Dexedrine) and the barbiturate derivative amobarbital. In the immediate postwar era, the stimulant-depressant combination had received favorable attention for the treatment of depression.⁸⁵ In one instance, a psychiatrist had described

⁸² Gottlieb, Bobbitt, and Freidinger, "Psychopharmacologic Study of Schizophrenia."

⁸³ For examples, see William Caveness, "Benzedrine Sulfate in Elderly People," *New York State Journal of Medicine* 47 (May 1947): 1003-1008; and John H. Arnett and Stanley E. Harris, "Effects of Small Doses of Amphetamine (Benzedrine) Sulfate upon the Aged," *Geriatrics* 3, no. 2 (March-April 1948): 84-88.

⁸⁴ LeHew, "Supportive Treatment of the Aged," 96.

⁸⁵ See William Drayton, "Recognition and Management of the Depressed Mental State," *Pennsylvania Medical Journal* 54, no. 10 (October 1951): 949-953; and Bryant Wedge and Margaret Moulton, "Method of Pharmacologic Facilitation of Psychiatric Investigation," *Journal of Nervous and Mental Diseases* 111, no. 2 (February 1950): 116-121.

his ability to treat 85 mildly depressed patients with Dexamyl.⁸⁶ Mindful of these findings, LeHew prescribed the drug as a supportive, or supplemental, treatment for his patients who did not demonstrate overt signs or symptoms of mental illness. Over a year long period, patients were given one tablet of Dexamyl three times daily after meals. At the end of the period, 26 of the 36 patients experienced beneficial effects, while only 8 of the 28 patients taking a placebo experienced the same change.

On the surface, the mixture of amphetamine and barbiturate appeared to improve the health of the elderly patients who took them, but this perceived improvement was overshadowed by the fact that over half of the patients dropped out of the study within the first six months. The most common benefit was the alleviation of depression and an increase in sociability and activity resulting in “improved personal appearance and ability for self entertainment.”⁸⁷ But at least one patient was made worse by a loss of appetite and a decrease in weight, which offset other improvements. Moreover, patients who dropped out of the study complained of gastrointestinal distress, poor appetite, backache, sleeplessness, nervousness, and hypertension. Despite some improvements from Dexamyl, LeHew had to contend with the fact that more than half of his patients stopped taking the drug because of unwanted side effects.

How might a physician have reconciled this apparent contradiction? LeHew thoughtfully considered the role of drugs in the lives of his patients:

Actually, the medication seemed to be helping a few of the people who dropped from the study and, curiously enough, it seemed that this was the underlying reason for their discontinuing the medication. There are some old people who are afraid of health, who view their disabilities as something like accomplishments

⁸⁶ Henry V. Grahn, “The Depressed Patient: Management with the Aid of a New Medication,” *American Practitioner and Digest of Treatment* 1, no. 8 (August 1950): 795-797.

⁸⁷ LeHew, “Supportive Treatment of the Aged,” 99.

entitling them to greater prestige, attention, and affection; and they tacitly resist anything that may threaten to deprive them of the bleak benefits of ill health. Obviously, no drug in itself can have a more than transient value for these patients.

In this regard, it might be well to point out that any person's ability to adjust does not depend alone on the numbers of years he has lived, but on the way he has lived his years. The ideal treatment of age, then, should begin in youth. Drugs cannot be expected to supply the answer to deep-seated personality problems—but they can help.⁸⁸

LeHew was sympathetic about the untoward effects the Dexamyl had produced in his elderly patients, but the frustrated physician also charged them with sabotaging their own therapy. If somewhat contradictory, LeHew at least understood that the drugs' efficacy, or lack thereof, could only be explained when considering the broader *milieu* in which they were administered. At the same time, LeHew's own reticence about administering Dexamyl to his patients, primarily because of the untoward effects of such a combination, suggests another issue just under the surface: the need for more efficacious therapies. Even if drugs could not "supply the answer" for patient's problems, physicians remained enthusiastic about whatever assistance they might be able to provide.

The Case of Ritonic

In November 1956, a special panel discussion on psychiatric drugs was sponsored by the American Geriatrics Society and American Academy of General Practice in New York. Led by psychiatrist Frank Ayd, Jr., and including other luminaries of the day such as Nathan Kline, the meeting considered the effect that new drugs, especially the major tranquilizers, were having on the management of mental disease in geriatric patients. While the panel discussion was clearly an outgrowth of the chlorpromazine and meprobamate revolutions, just as important was its implication about the role that medications could play in the management of aged patients. One such drug cited by Kline

⁸⁸ LeHew, "Supportive Treatment of the Aged," 100.

was Ritalin.⁸⁹ Ayd also expressed an interest in the use of methylphenidate, and his work with the drug would play an important role in shaping its medical uses.⁹⁰

In 1955, John Ferguson and William Funderburk of the Traverse City State Hospital in Michigan reported the story of a 76-year-old woman described as “talkative, wandering, disoriented, and confused,” and who “resisted help but was unable to help herself.”⁹¹ She had to be spoon-fed and soiled herself much of the time. On reserpine and methylphenidate, however, the woman’s condition began to improve as she “awaken[ed] to reality, showed a decrease in confusion, and started participating in off-ward activities.”⁹² Within six months of receiving these new drugs, the patient, who had been institutionalized since 1911, had ground parole and could go home or to a nursing home.

This case was but one of many stories by Ferguson and Funderburk about the difference that Ritalin had made in their hospital. Under the drug’s influence, elderly patients “swamped” the staff beautician, bought toothbrushes, and asked for dental treatment. Destruction of furniture and clothes dropped 65 percent and mattress replacement was reduced by 75 percent. Nursing time for spoon feeding was “markedly

⁸⁹ Frank J. Ayd Jr. et al., “Panel Discussion on Tranquilizing Drugs in the Clinical Management of Mental Disease in Geriatric Patients,” *Journal of the American Geriatrics Society* 6, no. 5 (May 1958): 379-396.

⁹⁰ Frank Ayd Jr., interview by Thomas A. Ban, July 19, 2001, Oral Histories Collection, International Neuropsychopharmacology Archives, American College of Neuropsychopharmacology, Vanderbilt University, Nashville, TN. See also, Frank J. Ayd Jr. “A Clinical Evaluation of Methylphenidylacetate Hydrochloride (Ritalin),” *Journal of Clinical and Experimental Psychopathology* 18, no. 4 (October-December 1957): 342-346; and Frank J. Ayd Jr. “Protracted Administration of Methylphenidate (Ritalin): Clinical and Laboratory Survey of Fifty Patients,” *Psychosomatics* 5, no. 3 (May-June 1964): 180-187.

⁹¹ John T. Ferguson and William H. Funderburk, “Improving Senile Behavior with Reserpine and Ritalin: New Approach with Use of Methyl Phenylpiperidylacetate,” *Journal of the American Medical Association* 160, no. 4 (January 26, 1956): 260.

⁹² Ibid.

decreased” and attendance at hospital social functions increased 300 percent.⁹³ “Our goal,” Ferguson and Funderburk related with a measure of pride, “was not so much the actual results to be obtained as it was an endeavor to help solve a great and ever-growing situation that faces the medical profession today, the socio-medical problems created by the extra years we, as doctors, have given mankind.”⁹⁴ For the two researchers, methylphenidate and reserpine therapy provided general practitioners with the same powerful tool that aided psychiatrists in their bid to help patients in the institutional setting. Ferguson and Funderburk were explicit in their belief that these drugs “might make it possible for many senile older people to be cared for at home instead of having to go to institutions.”⁹⁵ In reporting their findings, the researchers noted that if homes were available, 50 percent of their patients could be discharged.⁹⁶ Just as important was Ferguson and Funderburk’s emphatic belief that general practitioners, especially family doctors, could prescribe the drug combination for their elderly patients, in order to forestall their need for nursing home care.⁹⁷

As much as Ritalin had influenced the outlooks of patients, it also affected how physicians understood their abilities and responsibilities as healers. Clinicians such as LeHew had frequently expressed uncertainty about what they could do to improve elderly patients’ health and quietly lamented the limits of their therapeutic capabilities. Such

⁹³ “Drugs Check Oldsters’ Behavior Problems,” *Science News Letter* 68 (December 10, 1955): 363.

⁹⁴ Ibid.

⁹⁵ “Drugs Help Oldsters,” *Science News Letter* 69 (February 4, 1956): 68.

⁹⁶ “Drugs Check Oldsters Problems,” 363.

⁹⁷ Ibid.

attitudes contrasted with the sentiments of doctors such as Ferguson and Funderburk just a few years later. Ritalin's application in the management of the elderly seemed prescient. Rather than treating a select number of patients with specific symptoms, the drug could be prescribed to an entire demographic suffering not necessarily from a particular disease but a set of symptoms that could be redefined as one. A recurring theme among those physicians writing about Ritalin's utility was their observation that geriatric populations did not necessarily suffer from any specific disease.⁹⁸ Their depression was tied to their advanced age and presumed deterioration of mind and body.⁹⁹ These clinicians identified their patients as a population whose problems were not limited to the physiological, but also had elements of social or economic causation. Psychotropic drugs could be used not just to manage the symptoms of a disease, but also to restore a "sense of well-being" resulting from physical, social, and economic, repercussions of aging. For their patients with "no real organic disease," Ritalin appeared to be an appropriate therapy.¹⁰⁰

For its part, Ciba appears to have understood this potential market for Ritalin. In many advertisements during the 1950s and 1960s, the firm made aged patients a particular focus.¹⁰¹ In one advertisement from 1957 (Figure 2.4), a visibly distressed,

⁹⁸ The notion that it was overall morbidity, rather than a specific disease, that afflicted patients also has its historical antecedents in neurasthenia, which I discuss in greater detail in the next chapter.

⁹⁹ Wesley Bare, "A Stimulant for the Aged. Observations on a Methylphenidate-Vitamin-Hormone Combination (Ritonic)," *Journal of the American Geriatrics Society* 8, no. 4 (April 1960): 292.

¹⁰⁰ Ibid.

¹⁰¹ Throughout this dissertation, I occasionally utilize drug advertisements to discuss how pharmaceutical firms communicated the uses of their products to physicians. Until the 1990s, companies were prohibited from advertising prescription drugs directly to consumers. The advertisements considered in this dissertation would have been published in medical journals and directed to physicians. While advertising can reveal a great deal about the placement of pharmaceuticals into the medical market, methodological care must be taken when using them to understand historical changes in psychiatry. They

older woman is promoted as a viable candidate for the drug in the treatment for depression. This particular ad was one among several published by Ciba as part of its late 1950s “Ritalin Helps Brighten the Day” campaign. In another ad almost a decade later (Figure 2.5), seniors were still recognized by the manufacturer as patients for the drug. Indicated for “chronic fatigue that depresses and mild depression that fatigues,” the 1966 advertisement for Ritalin depicted a listless older woman in the left panel, beset by a large pile of unpeeled potatoes. In the right panel, presumably after taking her medication, the same woman appears more content and energetic as she finishes peeling the potatoes.¹⁰² While it is necessary not to construe too much meaning from such ads, both depict how Ciba targeted the elderly as potential patients for Ritalin during the 1950s and 1960s.

may disclose one aspect of the complicated process in which markets are created, negotiated, and transformed. But as “one-way” communications between drug firms and their intended audiences, advertisements cannot “reveal” how physicians would have responded to them.

For more on the subject of drug advertising in the postwar United States, see Nancy Tomes, “Great American Medical Show Revisited”; and Jeremy A. Greene, “Attention to ‘Details’: Etiquette and the Pharmaceutical Salesman in Postwar America,” *Social Studies of Science* 34, no. 2 (April 2004): 271-292. On the origins of pharmaceutical advertising, see James Harvey Young, *The Toadstool Millionaires: A Social History of Patent Medicines in America before Federal Regulation* (Princeton, NJ: Princeton University Press, 1961); and Susan Strasser, “Sponsorship and Snake Oil: Medicine Shows and Contemporary Public Culture,” in *Public Culture: Diversity, Democracy, and Community in the United States*, ed. Marguerite S. Shaffer (Philadelphia: University of Pennsylvania Press, 2008), 91-113. Relevant historical studies that have considered pharmaceutical advertising include Metzl, *Prozac on the Couch*; Singh, “Not Just Naughty”; Rasmussen, *On Speed*; and Tone, *Age of Anxiety*.

For more on the history of advertising in America, see T. J. Jackson Lears, *Fables of Abundance: A Cultural History of Advertising in America* (New York: Basic Books, 2004); Pamela Walker Laird, *Advertising Progress: American Business and the Rise of Consumer Marketing* (Baltimore: Johns Hopkins University Press, 1998); Roland Marchand, *Advertising the American Dream: Making Way for Modernity, 1920-1940* (Berkeley: University of California Press, 1985); and Thomas Frank, *The Conquest of Cool: Business Culture, Counterculture, and the Rise of Hip Consumerism* (Chicago: University of Chicago Press, 1997).

¹⁰² The marketing campaign from which this advertisement would be taken would also be implicated the issue of Ciba’s indication of Ritalin for “tired housewife syndrome” during the 1960s, which I consider in Chapter 3.

Physicians report how depressed patients improve with Ritalin

"These patients represented the types of cases which might come into any doctor's office for treatment of the chronicity of and inactivity, the melancholic group, the 'low' patients, depressed because of pressure of present-day living, and the group who were on medications which caused depressed states."

"The effect [of Ritalin] lasted about four hours, gave the patient a feeling of well-being and that life was worth living. Their worries seemed to disappear, they were alert, fatigue disappeared, and they could go all day without sleep. The effect gradually disappeared with no extreme let-down or rebound effect."

"... the drug [Ritalin] had no effect on blood pressure, the blood count, urine or blood sugar, did not depress the appetite, and produced no tachycardia. There was no evidence of any allergic manifestation in any of the cases."

"A double-blind study of the mood elevating properties of Ritalin® in 112 patients showed statistically significant effect. ... This drug often gives help to patients in whom elevation of the mood is desirable."

"It [Ritalin] cures mild depression in small ... it changes dull, apathetic patients into more alert, interested ones."

"It stimulates, warms, and energizes patients to more normal, productive activity."

Ritalin
helps brighten the day

CIBA

Figure 2.4 – 1957 advertisement for Ritalin, “When Reassurance Is Not Enough...” (Source: Journal unknown. The author thanks Wanda Husick for this image.)

if chronic fatigue and mild depression make simple tasks seem this big...

Ritalin gently overcomes mild depression and the fatigue so often associated with it. The drug brightens mood and improves performance, helps restore appetite, enthusiasm, and drive. Patients often report that fatigue and worry seem to vanish; they are able to go all day without getting tired.

Widely noted for its outstanding record of safety, Ritalin is virtually free of the toxic effects of the more potent antidepressants. Its action is usually unopposed by excessive stimulation or sudden letdown. Ritalin is exceptionally well tolerated, even by the elderly.

CONTRAINDICATIONS: Marked anxiety, tension, agitation. Contraindicated in patients with glaucoma and with epilepsy, except for control of epilepsy induced by anticonvulsant drugs. **WARNINGS:** Should not be used for severe depression (suicidal or homicidal) except in the hospital under careful supervision. Should not be used to increase mental or physical performance beyond physiological limits. **PRECAUTIONS:** Patients with an element of agitation may react adversely; discontinue therapy if necessary. Use cautiously with norepinephrine (e.g., epinephrine, levonordefol, angiotensin analogs) and in patients with hypertension.

SIDE EFFECTS: Nervousness, insomnia, anorexia, nausea, dizziness, palpitation, headache, drowsiness, restlessness. Rarely, blood pressure and pulse changes, both up and down. Occasional psychotic behavior and psychotic dependence in emotionally unstable persons have occurred rarely.

DOSEAGE: Administer orally in divided doses 3 or 4 times daily, preferably 30 to 45 minutes before meals. Dosage will depend upon indication and individual response. The average range being 20 to 60 mg daily.

SUPPLIED: Ritalin® hydrochloride (methylphenidate hydrochloride CIBA) Tablets, 20 mg (pink), 10 mg (light green) and 5 mg (light yellow).

Consult complete product literature before prescribing. CIBA Pharmaceutical Company, Summit, N.J.

Ritalin® (methylphenidate CIBA) relieves chronic fatigue that depresses and mild depression that fatigues

Figure 2.5 – 1966 advertisement for Ritalin, “Relieves Chronic Fatigue that Depresses and Mild Depression that Fatigues.” (Source: 1966 issue of JAMA. The author thanks Ben Hansen and Eugene Raikhel for this image.)

In 1959, the company introduced Ritonic for “patients who are losing their drive, alertness, vitality and zest for living because of the natural degenerative changes of advancing years.”¹⁰³ A “new preparation designed to improve mood and maintain vitality,” each capsule of Ritonic contained Ritalin, B vitamins, and sex hormones (both testosterone and estrogen).¹⁰⁴ Ritonic demonstrated how psychopharmacology was expanding into the newly developing geriatric market. Ciba’s efforts were mirrored by other companies. For example, SKF had similarly attempted to market Thorazine for senility during the mid- to late 1950s (see Figure 2.6). The marketing of two very different classes of drugs, a stimulant (Ritalin, Ritonic) and a major tranquilizer (Thorazine), for similar symptoms is striking, but not necessarily paradoxical. Each of the drugs produced effects considered desirable among physicians treating aging patients. Likewise, the marketing of pharmacologically opposing drugs for similar symptoms would continue, as I demonstrate in the next chapter. In this case, however, the emergence of Ritonic was part of a larger phenomenon of drug marketing for geriatric psychiatry.

¹⁰³ “Ritonic,” *Physicians’ Desk Reference*, 13th ed., suppl. 4 (Oradell, NJ: Medical Economics, 1959), 14. It is perhaps worth mentioning that the description for Ritonic claimed that Ritalin was a “mild, safe, nonamphetamine stimulant.”

¹⁰⁴ For more on the role of vitamins and sex hormones in medicine and health, see Rima Apple, *Vitamina: Vitamins in American Culture* (New Brunswick, NJ: Rutgers University Press, 1996); and Elizabeth Siegel Watkins, *The Estrogen Elixir: A History of Hormone Replacement Therapy in the United States* (Baltimore: Johns Hopkins University Press, 2007). The relationship between hormone replacement therapy (HRT) and aging one is a prominent theme in Watkins’s study. Likewise, Apple mentions how such products as “Eldertonic Vitamin-Mineral Supplement” were indicative of the marketing of vitamin products according to consumers’ stage in life (p. 31).

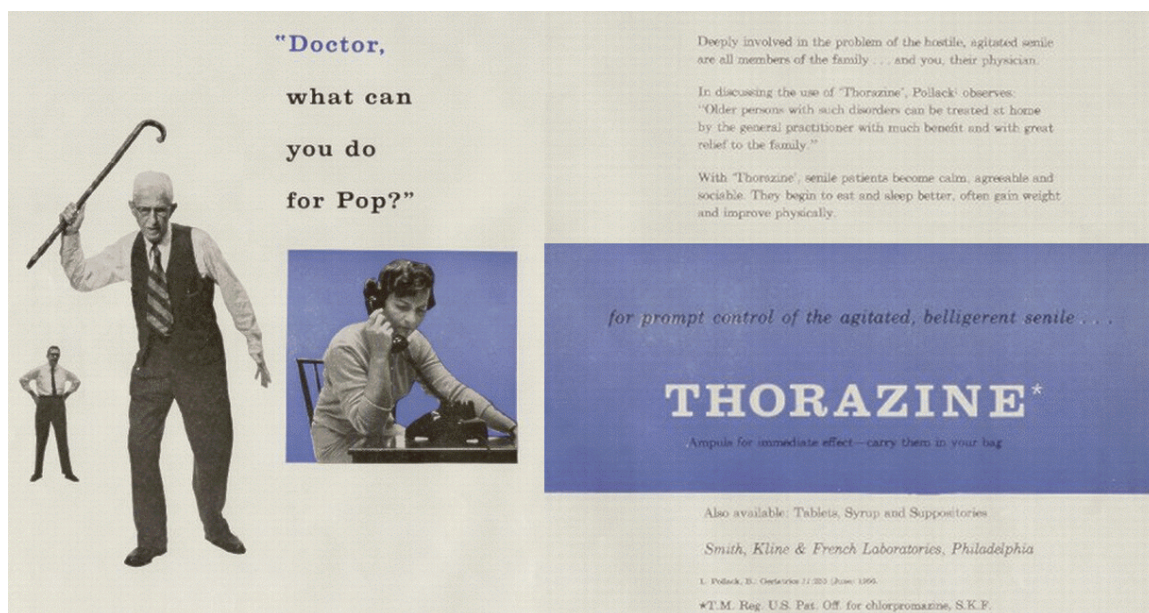


Figure 2.6 – 1957 advertisement for Thorazine for elderly patients, “Doctor, what can you do for Pop?” (Source: June 1957 issue of *Geriatrics*. The author thanks Ben Hansen for this image.)

Another important development was the role of non-psychiatrists who increasingly prescribed drugs for newly defined “psychiatric” disorders of the elderly. For example, general practitioner Wesley Bare enthusiastically observed that Ritonic should “have a place in the armamentarium of the physician who sees even one aged patient.”¹⁰⁵ Pharmaceutical company advertising in non-psychiatric journals further reflected the expansion of methylphenidate beyond the psychiatrist’s realm in the treatment of aging patients.

Not all clinicians shared Bare’s enthusiasm for Ritonic, however. In 1966, two Texas physicians published their findings from a double-blind study of an unnamed vitamin-anabolic-stimulant mixture produced by Ciba (presumably Ritonic). They reasoned that a widespread belief that underweight geriatric patients would benefit from

¹⁰⁵ Bare, “A Stimulant for the Aged,” 292.

such tonics had never been subjected to rigorous testing. Such assumptions had “stood the test of time, extending from the days of the traveling medicine man to the age of television hucksters.”¹⁰⁶ The two physicians did not necessarily view Ritonic as a quack product and, indeed, they praised some of its attributes, including the potential for methylphenidate to work as a psychic mood energizer for the elderly. While such a product streamlined the administration of several medications, they concluded that combination therapy should offer more therapeutic advantages than the “mere convenience of administration.”¹⁰⁷ The researchers concluded that Ritonic offered no additional advantages over the individual administration of methylphenidate, vitamins, and hormones. In fact, such mixtures did not allow clinicians to customize the ingredients or their dosage to meet individual patient needs. Illustrative of Ritonic’s therapeutic inflexibility was the fact that the mixture contained similar amounts of estrogen and testosterone and did not take into account the hormonal differences between men and women. Physicians did not limit themselves to what Ciba placed on the market, however. The use of a dextroamphetamine and meprobamate combination by another group of physicians around the time demonstrates an ongoing experimental attitude by physicians seeking novel therapies for their patients.¹⁰⁸

¹⁰⁶ Philip Johnson and John Shaw, “A Vitamin, Anabolic, Stimulant Mixture. Is This Form of Medication Advantageous for Debilitated Geriatric Patients?” *Journal of the American Geriatrics Society* 14, no. 5 (May 1966): 525.

¹⁰⁷ Ibid.

¹⁰⁸ Arnold D. Krugman et al., “A Research Note: Effects of Dextro-Amphetamine and Meprobamate on Problem Solving and Mood of Aged Subjects,” *Journal of Gerontology* 15, no. 4 (October 1960): 419-420.

Considering Combination Drug Therapy

The use of psychostimulants as part of combination drug therapies was, in many ways, a defining characteristic of their use in institutional settings. In some cases, drugs such as Ritalin and Dexedrine were relegated to playing supporting roles. Yet psychiatrists who turned to these combinations acknowledged that they conferred a therapeutic efficacy that would have been unobtainable had just one drug been administered. While historians of psychopharmacology have rightly pointed to the revolution wrought by chlorpromazine and other major tranquilizers, they have paid scant attention to the role that drug combinations played in solidifying their effectiveness.

What made drug combinations useful to clinicians? In the treatment of psychosis, many clinicians noted that the untoward effects of chlorpromazine produced patients whose psychotic symptoms may have been alleviated, but at the expense of extreme fatigue. Hence, psychiatrists laboring to make their patients better “turned to the apparently paradoxical, but well-established therapeutic device of limiting the effect of one drug by administering its physiologic opposite, either simultaneously or consecutively.”¹⁰⁹ In other cases, a drug such as chlorpromazine administered by itself appeared ineffective, but produced positive results when combined with amphetamine or methylphenidate. Such approaches to combination therapy also demonstrate how psychiatrists were imbued with a sense of pragmatism in their efforts to discern the best therapeutic options for their patients.

Enthusiasm for combination therapies persisted even after newer drugs became available for the treatment of depression, anxiety, and other disorders. In the late 1960s, Dr. Heinz Lehmann and his research associates at the Douglas Hospital in Verdun,

¹⁰⁹ Zimmerman and Burgemeister, “Action of Methyl-Phenidylacetate,” 323.

Quebec, undertook a study to determine how efficacious a combination of Dexedrine and Demerol, an opioid analgesic, were in the treatment of depression. Rather than targeting mild depression, Lehmann's trial group was patients with "vital depression," with depressed mood and feelings of hopelessness, worthlessness, and guilt. The doctors found that the combination helped most patients studied.¹¹⁰

Lehmann's study is significant partly because it illustrates that although tricyclic antidepressants and MAOIs had been available for the treatment of serious depression beginning in the late 1950s, psychiatrists remained interested in psychostimulants for the treatment of depression. While identifying amphetamines specifically as stimulants of the central nervous system, they recognized that the drugs' pharmacological effects had similarities to antidepressants. As drug companies began to seek new markets during the 1960s, interest in older psychostimulants endured.

As the cases of Dexamyl, Serpatilin, and Ritonic demonstrate, pharmaceutical firms were not oblivious to potential markets for combination drugs. While it is unclear whether drug companies followed clinicians' leads when introducing these new products, the cases of Serpatilin and Ritonic suggest that Ciba was receptive to the way in which their drugs were being utilized, and then developed combination products in response. In his consideration of Dexamyl, Rasmussen has likewise observed the role that clinical use of drug combinations played in marketing.¹¹¹ While physicians may have been receptive to combining drugs in their practices, they did not necessarily embrace the integrated

¹¹⁰ H. E. Lehmann, J. V. Ananth, K. C. Geagea, and T. A. Ban, "Treatment of Depression with Dexedrine and Demerol," unpublished paper, no date, Heinz E. Lehmann papers, Collection 105, Box 36, Folder 31, International Neuropsychopharmacology Archives, American College of Neuropsychopharmacology, Vanderbilt University, Nashville, TN. Though no date for the paper is provided, citations and other contextual clues suggest it was written in or after 1969.

¹¹¹ Rasmussen, *On Speed*, 120-140. Rasmussen's discussion of Dexamyl also serves as one of the best introductions to the issue of combination drug therapies.

products offered by pharmaceutical firms. As the case of Ritoniv demonstrates, some physicians preferred the flexibility conferred by tailoring drugs and dosages individually for each patient. Nevertheless, the use of psychostimulants in institutional settings during these years suggests the importance of combination drug therapy as part of those practices.

Industry Response to Clinician Practices

Scholars such as David Healy, Nicolas Rasmussen, and Jeremy Greene have discussed the efforts of pharmaceutical firms to shape the indications of their drugs to capitalize on potential markets. One of the best-known tools in these efforts has been the *Physicians' Desk Reference (PDR)*, first published in 1947 as a promotional and educational tool by firms for their products. While the first edition of the *PDR* was a mere 300 pages, by the 1960s, it had grown to over 1,000 pages.¹¹² At over 3,000 pages, the most recent version (63rd edition, published in 2009) is more than ten times the size of the original.¹¹³ Accompanying the expansiveness of the *PDR*, however, has been its growing reputation as a source of information for prescribing physicians. What began as a means to position drugs in the medical marketplace has become a leading resource for physicians in understanding a drug's indications. The *PDR* is but one example of how the pharmaceutical industry influenced physician practices; the use of "detail men" who have supplied physicians with information about their products is another well-documented practice.¹¹⁴ Taking into account historians' observations of the active role played by

¹¹² My thanks to Jeremy Greene for this observation in *Prescribing by Numbers*, 22n3.

¹¹³ *Physicians' Desk Reference*, 63rd ed. (New York: Thomson-Reuters, 2009).

¹¹⁴ Jeremy Greene, "Attention to 'Details.'" See also, Tone, *Age of Anxiety*, 72-77, 125-155, for a discussion of how internal tensions existed within pharmaceutical firms over how best to promote their drugs. A prime example is that of Frank Berger, the inventor of Miltown, who refused to allow Carter to

pharmaceutical firms in discerning potential markets for their drugs, my study of Ritalin suggests how firms likewise took advantage of the ways that clinicians used their products.

Immediately upon bringing Ritalin to market, Ciba touted its potential as an antagonist for barbiturate anesthesia (see Figure 2.7). Anesthesiologists were one of the earliest markets for Ritalin, based primarily on initial research that determined the drug's basic physiological effects on the body. Ritalin was not unique in this regard, as SKF similarly promoted Thorazine as a relaxant for surgery (see Figure 2.8). But accompanying this initial marketing by Ciba were investigations by inquisitive clinicians regarding other novel applications for the drug. Mindful of the established uses of amphetamines for weight loss, physicians probed the potential of methylphenidate for the medical management of obesity. Unfortunately, Ritalin did not prove to be as successful in this regard as SKF's Dexedrine and Dexamyl.¹¹⁵ Nevertheless, these failures tell us much about the wide-ranging approach that clinical researchers took toward discovering novel applications for Ritalin during the 1950s.

use detail men in order to promote the drug. After Berger retired from the company, Carter immediately resorted to detailing for Miltown.

¹¹⁵ Oliver FitzGerald and L. G. McElearn, "Clinical Trial of Cafilon and Ritalin in the Treatment of Obesity," *Irish Journal of Medical Science* 381, no. 2 (September 1957): 391-400.

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after barbiturate anesthesia...

parenteral Ritalin[®]

"...shortened recovery time to an appreciable and statistically significant degree."¹

Administered immediately after surgery, parenteral Ritalin quickly arouses your anesthetized patient—decreasing barbiturate after-effects and postoperative complications and minimizing the need for extended recovery-room care.

Ritalin has further been shown to be "effective in initiating respiration in patients after prolonged apnea due to central respiratory depression during anesthesia and in counteracting respiratory depression in the newborn."¹

1. Gale, A. S.: *Anesthesiology* 19:521 (July-Aug.) 1958.

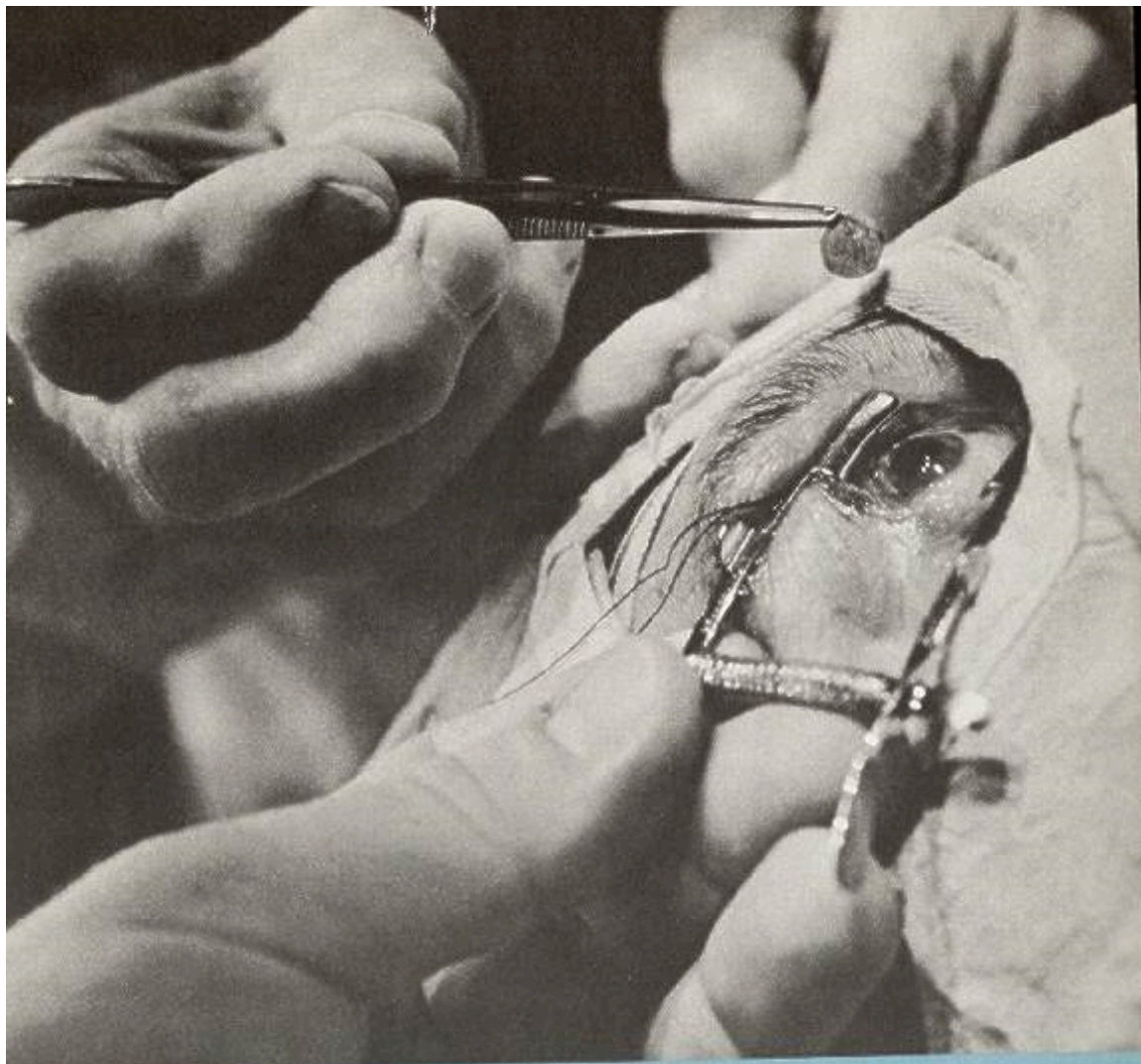
SUPPLIED: Parenteral Solution: Multiple-dose Vials, 10 ml., each vial containing 100 mg. Ritalin hydrochloride and 100 mg. lactose in lyophilized form. Ritalin Parenteral Solution may be obtained from your local pharmacist.

RITALIN[®] hydrochloride (methylphenidate hydrochloride CIBA)

C I B A SUMMIT, N. J.

40 2070 00

Figure 2.7 – Ciba advertisement for parenteral (intravenous) Ritalin for recovery from anesthesia. (Source: Journal unknown. The author thanks Wanda Husick for this image.)



this patient must not vomit!
.....

THORAZINE* chlorpromazine, S.K.F.
Ampuls • Tablets • Syrup • Suppositories

ocular surgery is just one
of the many emesis-provoking situations and conditions in which
Thorazine® has established its antiemetic value.
Thorazine® has been found clinically effective, in both adults and children,
in suppressing nausea and vomiting from a wide variety of causes, including:
drugs, radiation, disease, pregnancy, and surgical procedures.

Reg. U.S. Pat. Off.

Figure 2.8 – SKF advertisement for Thorazine to prevent nausea during surgery, further suggesting myriad applications of psychotropic medications. (*Source*: Journal unknown. The author thanks Wanda Husick for this image.)

Not all applications turned out to be therapeutic dead-ends, however. The first reports about Ritalin's potential for geriatric patients surfaced almost immediately after the drug reached market in 1955, and Ciba then moved to indicate and market Ritalin for older patients in 1957. The company went even further to introduce Ritonic in 1959, four years after Ferguson and Funderburk first reported on the efficacy of the drug for older patients. Likewise, Serpatilin reached market just after initial reports on the efficacy of methylphenidate and reserpine for mentally ill patients. New indications for Ritalin in the *PDR* and Ciba advertising during the 1950s and 1960s often emerged after their discussion in the clinical literature first, suggesting how firms were responsive to physician practices.

Conclusion

In this chapter, I call attention to how clinicians found a place for psychostimulant drugs in institutional psychiatry during the immediate postwar period. Using Ritalin as a case study, I conclude how these drugs served to counteract the untoward effects of the major tranquilizers credited as the first decisive therapies in the treatment of schizophrenia during the 1950s. While they may not have predominated in mental hospitals, these overlooked combination therapies extended the promises of efficacy to more patients than if chlorpromazine and reserpine had been used alone.¹¹⁶ In addition, I also demonstrate the position that psychostimulants held among clinicians who sought additional therapeutic options to alleviate the most severe forms of depression. When compared to established somatic therapies, stimulants were valued for their potential as

¹¹⁶ One of the main challenges in my assessment of psychostimulant use within institutional settings during these early years has been establishing how many physicians prescribed the drugs, or how many patients used them. Here, I have only been able to infer from the relevant literature that the use of these stimulants was established as a matter of practice, but not necessarily ubiquitous. I take up this issue in greater detail in Chapter 7.

adjuncts in dealing with patients either unwilling or incapable of undergoing treatments such as ECT. In both instances, stimulant pharmacotherapy demonstrated the pragmatism of psychiatrists as they utilized pharmaceuticals in ways that made sense to them and for their patients. At the same time, the uses of these drugs in institutional settings, especially for geriatric psychiatry, suggests how companies were receptive and responsive to physician practices.

Chapter 3

Strange Couchfellows: Stimulants, Psychotherapy, and Depression in Outpatient

Psychiatry

During the same era in which institutional psychiatrists exploited the effects of psychostimulant medications to alleviate the symptoms of severe mental illness, outpatient psychiatrists contemplated the use of these drugs for patients and conditions of a different type. Private practice psychiatry, characterized during this time by its psychodynamic approach to neurosis, was also transformed by the pharmacological developments of the postwar era. Historians have called attention to how anxiolytics and antidepressants eventually displaced the dominance of Freudian “talk therapies.” Less appreciated, however, is how psychiatrists adapted stimulant drugs for use within the psychoanalytic paradigm. In this chapter, I discuss the neglected history of pharmacologic psychotherapy, documenting its brief heyday during the 1950s and its eventual dissolution by the end of the 1960s.¹

Introduction

Recent historical scholarship has emphasized how pharmacotherapy with anxiolytics and antidepressants superseded psychoanalysis as the primary form of

¹ Shorter calls attention to the problem of disentangling “psychotherapy” from “psychoanalysis” during the early and mid-twentieth centuries, claiming that at times “the analytic dog was wagging the therapeutic tail.” See Shorter, *History of Psychiatry*, 370n55. Though many of psychiatrists depicted in this chapter are practitioners of psychoanalysis and adherents of one of the traditions established by pioneers such as Sigmund Freud, Carl Jung, or Albert Adler, not all of them are. Some psychiatrists preferred a more generic form of talk therapy, referred to here as psychotherapy. In addition, not all psychoanalysts and psychotherapists were necessarily psychiatrists, but many of them were, as membership to the most prestigious societies related to these techniques was limited to physicians. Many patients might have received psychotherapy from psychologists, but it is important to remember that drug-mediated psychoanalysis and psychotherapy, as discussed in this chapter, was limited to psychiatrists. As physicians, they were the only professionals with the capability to prescribe or administer drugs for their patients.

therapeutics in postwar outpatient psychiatry. For some historians such as David Healy, this transition owed much to changing diagnostic categories that increased the number of people affected by depression and viewed disorders increasingly in biological rather than psychodynamic terms.² In describing the rise of the “second biological psychiatry,” historian Edward Shorter has likewise emphasized the attenuation of a psychodynamic orientation toward mental illness during the postwar era.³ However, psychiatrists did not immediately discard talk therapies in favor of treatment exclusively with new “wonder drugs.” The process of change in outpatient psychiatry was gradual and even paradoxical.

This chapter contributes to historical scholarship by investigating the use of drugs by psychoanalytically oriented psychiatrists during the 1950s and 1960s. Rather than challenging the old order, pharmacotherapy could be harnessed to preserve it, or even improve it, by expediting psychoanalysis. Psychiatrists were able to facilitate cathartic emotional responses in their patients that complemented transference therapies.

² Healy, *Antidepressant Era*. In *The Antidepressant Era*, one of Healy’s central observations relates to the fact that depression has never been a single unifying concept, and one that has become more fractured with the development and use of antidepressant drugs during the past 40 years. Before the antidepressants, depression, as it was then understood, was uncommon and considered a disorder of great severity. Healy suggests that the availability of antidepressants as part of the psychopharmacological revolution appropriately placed more attention on the illness and probably led to more effective recognition, diagnosis, and management of the disorder. However, Healy also has grave concerns that the widening diagnostic criteria of depression may involve the pharmaceutical industry’s marketing of not only the drugs but also the illness itself. It is also important to note that when dealing with depression, Healy harbors concerns over the reconceptualization of depression as a relatively common disorder, and one whose sufferers are overwhelmingly less likely to be found in institutional settings. This transition in the diagnosis of depression appears to underpins Healy’s study more than any other factor: “The common experience of depression lies somewhere midway between illness and disease, and the drugs themselves, the antidepressants, like somewhere between magic bullets and snake oil” (3-4).

³ Shorter refers to the “second biological psychiatry” in *A History of Psychiatry* as the period between the 1950s and 1970s in which biologically-oriented psychiatry, which have relied upon somatic diagnoses for mental illness and pharmacotherapy for their treatment, displaced the psychoanalytic (Freudian) paradigm of psychiatric practice. Credit for this change belongs in large part, Shorter argues, to the successful introduction of chlorpromazine. The “first biological psychiatry” refers to a period in the late nineteenth and early twentieth centuries, in which psychiatrists led by Emil Kraepelin viewed psychiatric illness in biological terms. For Shorter, the period of psychoanalytic domination (at least in private practice—he acknowledges the role of somatic “alternatives” in institutions) represented a “hiatus” between the “first biological psychiatry” and “second biological psychiatry.” To his credit, Shorter also acknowledges the role of somatic “alternatives” within institutional psychiatry during this time.

Stimulants such as Ritalin, Dexedrine, and Methedrine, in particular, were congruous with psychoanalytic practices because they induced effects that tended to enhance communication between the doctor and patient. Central to the transference therapy performed by these practitioners was a process known as abreaction. Abreaction is the expression and emotional discharge of unconscious material (as a repressed idea or emotion) by verbalization, especially in the presence of a therapist. With the assistance of drugs such as the psychostimulants, psychiatrists could abreact painful and traumatic experiences in their patients, revealing them as part of transference therapy and then inducing, both through the psychoanalytic interview and pharmacologically, a relief of tension. Pharmaceuticals facilitated these dialogues, but the therapeutic relationship between doctor and patient, not the drug that mediated it, received credit for the treatment.

In addition to highlighting the application of drugs by psychiatrists not commonly associated with their use, I also examine the debates surrounding their place within psychoanalytic practice. Outpatient psychiatrists during the 1950s were often divided about the use of pharmaceuticals in their practices. Some openly opposed them on the grounds that they interfered with the doctor-patient relationship. But others enthusiastically embraced stimulants as a means to help cure anxious breadwinners and repressed housewives of their neuroses. Debates went far beyond whether drugs helped or hindered psychiatric practice, however, as psychiatrists contemplated what specific role they might play and the limits of their usefulness. Were they merely experimental tools, or might they be suitable for everyday practice? While their use constituted a minority approach, I conclude that psychiatrists open to their possibilities administered

the drugs in an effort to enhance their relationships with patients, better determine the causes of their problems, and discern the best course of treatment.

At the same time, there is a need to understand precisely *why* private practice psychiatrists felt it necessary or, at the very least, thought it useful to introduce drugs into therapies rooted in the relationship between physician and patient and solidified by the rapport of the “talking cure.” I argue that psychiatrists faced with uncommunicative patients and the threat of therapeutic failure did so primarily because they had no choice if they wished to pursue an effective course of talk therapy. Yet, these decisions were not necessarily unilateral, at least not in the mind of the psychiatrist. It was the patient, through his or her lack of responsiveness to conventional forms of psychoanalysis and psychotherapy, who generally made all the difference. In effect, unresponsive patients were passive agents, rather than outright clinical subjects, whose perceived lack of response to psychoanalysis was the primary factor in the decision to introduce stimulants into the therapy session.

Finally, my examination of the application of stimulant drugs within psychotherapy complicates the historiography by suggesting that a biological orientation in outpatient psychiatry did not neatly displace analytical and other psychodynamic approaches. In line with historians such as Jonathan Metzl and Andrea Tone, my story suggests that these clinicians did not immediately change the way they practiced psychiatry.⁴ While a transformation in psychiatry certainly did take place, for a time, psychiatrists demonstrated the potential of a hybrid approach within their practices. I emphasize the eclectic and pragmatic nature of outpatient psychiatry during the

⁴ Metzl, *Prozac on the Couch*; and Tone, *Age of Anxiety*.

immediate postwar period by suggesting how drug and talk therapies could exist side-by-side in the minds of some psychiatrists.

The Rise of Psychoanalysis in the United States

A nuanced understanding of the history of psychiatry rests upon comprehending the historical division between psychosis and neurosis. For much of its history, modern psychiatry was most concerned with addressing the problem of psychosis. As I discussed in the previous chapter, many of these patients were confined to institutions during the nineteenth and twentieth centuries, and their conditions were most closely linked to the profession of psychiatry. During the early twentieth century, however, psychiatry became increasingly invested in a second group of individuals, those people who led otherwise normal lives but still suffered from anxiety and everyday depression. For much of the nineteenth century, these disorders, known collectively as neurasthenia, had been the purview of private practice neurologists whose interests in treating the “nerves” of their clientele were quite distinct from the psychiatrists who ministered to the mentally ill in asylums and other custodial institutions.⁵

Much of the credit for psychiatry’s eventual focus on everyday ills belongs to Sigmund Freud, indisputably one of the most important figures in modern history.⁶ Originally trained as a neurologist, Freud began his eminent career with a concern for the

⁵ F. G. Gosling, *Before Freud*; and Gijswijt-Hofstra and Porter, *Cultures of Neurasthenia*.

⁶ It goes without saying that Freud is one of the most researched and discussed figures in modern history. Perhaps the best introduction remains Ernest Jones’s three volume biographical study: Ernest Jones, *The Life and Work of Sigmund Freud, Vol. 1: The Formative Years and the Great Discoveries, 1856-1900* (New York: Basic Books, 1953); Ernest Jones, *The Life and Work of Sigmund Freud, Vol. 2: Years of Maturity, 1901-1919* (New York: Basic Books, 1955); and Ernest Jones, *The Life and Work of Sigmund Freud, Vol. 3: The Last Phase, 1919-1939* (New York: Basic Books, 1957). Written during the height of psychoanalysis in America, Jones’s provides a relatively balanced view of Freud’s life. More recent biographies of note include Peter Gay, *Freud: A Life for Our Time* (1988; reprint, New York: W. W. Norton & Co.: 1998); and Louis Breger, *Freud: Darkness in the Midst of Vision* (New York: John Wiley & Sons, 2000).

workings of the human brain. This interest manifested itself during the 1890s when he sought to reform the diagnosis of neurasthenia. In 1894, he proposed that neurasthenia be reduced to two diagnoses, “actual neurasthenia,” which had a somatic basis, and “anxiety neurosis,” which was psychogenic in origin. Freud subsequently dedicated the remainder of his career to understanding this latter category of neurosis.⁷ Through the publication of such famous works as 1899’s *The Interpretation of Dreams*, 1914’s *On Narcissism*, and 1930’s *Civilization and Its Discontents*, Freud expounded on his ideas for understanding the causes of neurosis, which he ascribed to the repression of certain sexual desires as defense mechanisms by the part of the psyche he termed the “ego.” The only way for a patient to overcome these neuroses, Freud postulated, was through a set of therapies known collectively as psychoanalysis. Relying upon techniques such as dream interpretation and transference therapy, the psychoanalyst worked with the patient to recover repressed memories, identify the source of the neurosis, and work toward a cure. Psychoanalysis relied upon interview sessions that lasted weeks, months, or even years, and where the expertise of the therapist was paramount.⁸

During the early decades of the twentieth century, Freud’s ideas were embraced most enthusiastically in the United States. While there were a number of reasons to explain why psychoanalysis made such headway in America, one motivation was the psychiatric profession itself. Originally the province of neurologists, particularly in Europe, neurosis and its treatment offered psychiatrists an opportunity to expand their professional boundaries. Less charitably, their embrace of psychoanalysis offered them a

⁷ See Tone, *Age of Anxiety*, 16-19.

⁸ For more on psychoanalysis as it was practiced, see Quen and Carlson, *American Psychoanalysis*. Also, Freedheim, *History of Psychotherapy*, provides a number of thoughtful articles on the history of psychotherapy, though more from a psychological rather than psychiatric perspective.

chance to move from the back wards of institutions to the respectability of private practices. If too simplistic an explanation, there was little doubt that by the mid-twentieth century, both psychosis and neurosis had become the domains of American psychiatry.⁹

As historian Gerald Grob has noted, American psychiatry found itself divided by the late 1940s. On one side were institutional psychiatrists, many of whom believed that the profession should limit itself to the care of the mentally ill and who were committed to the idea of organic pathologies and somatic therapies. Opposing this group were those psychiatrists who believed that the old institutional model was obsolete and that the profession should devote itself to psychodynamic and psychoanalytic ideas.¹⁰ In reality, each group was a key driver within the profession. Psychiatry was still dedicated to the severely mentally ill within institutions where somatic therapies were still the dominant forms of treatment. But psychiatry also had been carving out a place for itself in the public sphere since the beginning of the century. In this market-driven world of neuroses, psychiatrists and patients alike were committed to Freudian psychoanalysis for both diagnosis and treatment. Even the publication of the first *Diagnostic and Statistical Manual (DSM-I)* in 1952 validated this binary view of psychiatry's concerns by distinguishing between psychoses and neuroses.¹¹ Yet within much of psychiatry, control

⁹ For a more detailed discussion of Freud's embrace by American psychiatry during the early twentieth century, see Nathan G. Hale Jr., *Freud and the Americans: The Beginnings of Psychoanalysis in the United States*, Freud in America, vol. 1 (New York: Oxford University Press, 1971); and Hale, *Rise and Crisis of Psychoanalysis in the United States*. Other considerations of Freudian ideas in the United States may be found in Shorter, *History of Psychiatry*, chap. 5. Also, John Burnham's essay "The Influence of Psychoanalysis upon American Culture," in Quen and Carlson, *American Psychoanalysis*, remains one of the best reflections of Freud's impact on American psychiatry.

¹⁰ Grob, *Mad among Us*, 199-201.

¹¹ Committee on Nomenclature and Statistics, *Diagnostic and Statistical Manual: Mental Disorders* (Washington, DC: American Psychiatric Association, 1952), 37. I owe this observation to Tone, *Age of Anxiety*, 18-19.

of the professional organizations, journals, and societies fell to analytically oriented psychiatry between the late 1940s and late 1960s.¹²

Psychopharmacology Redux: Considering Outpatient Psychiatry

The dominance of psychoanalysis in the United States, which began to peak during the 1950s, was complicated by pharmacotherapies aimed at addressing the everyday concerns of anxiety. As I observed in the previous chapter, the first beneficiaries of psychopharmacology were institutional psychiatrists. But the pharmacological revolution was not lost on private practice psychiatrists, many of whom were still using psychotherapeutic methods to address the needs of their patients. The anxiolytic drug meprobamate, marketed by Carter as Miltown and by Wyeth as Equanil, had a peculiar early history.¹³ Historian Andrea Tone has observed that when meprobamate was introduced in the mid-1950s as the first minor tranquilizer for anxiety, its manufacturers were keen to market the drug as an adjunct for psychotherapy, not as a replacement for it. In a series of deft advertisements designed to allay possible fears within the prevailing psychiatric establishment, Carter and Wyeth promoted the medication as a tool to aid psychoanalysis by helping the patient to calm down and become more introspective as part of the therapy session. Hence, meprobamate would

¹² The leadership of brothers Karl and William Menninger in American psychiatry during this time provides one example of the professional and public dominance by psychodynamic and psychoanalytic proponents. Karl Menninger had been influential in the popularization of psychoanalysis in the United States through the publication of a number of bestselling books, the foundation of the Menninger Foundation, and the establishment of the Menninger Clinic in Topeka, Kansas. William served as president of the American Psychiatric Association (APA) and also played a crucial role in the passage of the 1946 National Mental Health Act. The Menninger brothers' belief that the success of battlefield psychiatry during World War II could be applied in civilian practice also demonstrated that while there may have been distinctions between the treatment of psychosis and neurosis, the two domains were also somewhat porous. See Grob, *Mad among Us*, chaps. 8 and 9.

¹³ See Tone, *Age of Anxiety*; and Mickey C. Smith, *A Social History of the Minor Tranquilizers: The Quest for Small Comfort in the Age of Anxiety* (1985; reprint, Binghamton, NY: Pharmaceutical Products Press/Haworth Press, 1991).

relax the patient into a higher state of suggestibility and openness. Tone has posited that few drug companies or psychiatrists in the 1950s and 1960s thought the source of anxiety could actually be eliminated by dispensing anxiolytics. But the drugs were believed to minimize the social, economic, and political consequences of anxiety, while making the job of the therapist easier at the same time by enhancing rapport and communication with the patient.¹⁴

Historian Nicolas Rasmussen has also noted how firms positioned stimulant drugs to appeal to analytically informed psychiatrists.¹⁵ One relevant example was the marketing of methamphetamine, manufactured by Burroughs-Wellcome as Methedrine, for psychoanalysis (see Figure 3.1). At the same time, however, he has discounted their actual use in practice, observing that drug-mediated psychoanalysis “could not have represented a very large market” even if “some drug firms did market amphetamines explicitly for this purpose, perhaps for prestige value.”¹⁶ In this chapter, I argue that there is a need to go beyond the marketing of psychostimulants and understand how some psychiatrists applied the drugs in their practices. Doing so, I contend, further elucidates the history of psychostimulants by parsing the actual relationship that these clinicians had with stimulants.

¹⁴ Andrea Tone, “Tranquilizers on Trial: Pharmacology in the Age of Anxiety,” in Tone and Watkins, *Medicating Modern America*, 163.

¹⁵ Rasmussen, *On Speed*, 122, 134.

¹⁶ *Ibid.*, 122.



Figure 3.1 – 1952 advertisement by Burroughs-Wellcome for Methedrine, exhorting psychiatrists to “release the story for analysis.” (Source: *American Journal of Psychiatry*)

The idea that tranquilizers’ properties enabled patients to relax and become more introspective during a psychotherapy session seems more intuitive than how amphetamines might have been utilized for the same purpose. The difference with stimulants was their ability to induce hostility, aggression, and anger as part of the abreaction process. For psychiatrists who were adherents of Sigmund Freud, Alfred Adler, and other leaders of the psychoanalytic school, such states of tension and the resolutions that followed were decisive in achieving therapeutic breakthroughs. The psychostimulants produced physical and psychological effects—excitement and lowering of inhibitions—congruous with the aims of much of outpatient psychiatry between the late 1940s and the late 1960s. Rather than reducing the tension and anxiety of their users, these drugs often had the opposite effect. As one proponent of their use in pharmaceutical-aided psychotherapy noted,

It has been found that even an unfavorable side effect of *d*-amphetamine sulfate, such as irritability, may be used in the therapeutic interview....Such an interview helps the patient to recognize his own feelings and provides an opportunity for the therapist to show his acceptance of the patient's feelings (anger, in this case) and to help him understand and handle them.¹⁷

While Miltown and Valium provided outpatient psychiatrists with tools to help manage their patient's symptoms of anxiety, the drugs also threatened to put analytically oriented psychiatrists out of business.¹⁸ Methedrine and Ritalin, on the other hand, more explicitly reinforced psychoanalysis because they were understood not as medications that alleviated visible symptoms, but as adjuncts that facilitated talking cures.

Adjuncts to Psychoanalysis

Though drug-aided psychotherapy may have reached its apex with psychostimulant drugs, there were notable antecedents. The introduction of barbiturates led a number of psychiatrists during the 1930s to use these drugs as part of their psychotherapeutic interviews, a technique sometimes referred to as narcoanalysis.¹⁹ During World War II, widespread interest in this form of therapy was piqued by the reportedly successful use of intravenous barbiturates in battle casualties. Military psychiatrists reported that these drugs helped soldiers suffering from "shell shock" to re-

¹⁷ A. Dorothea Pohlman, "The Use of D-Amphetamine Sulfate as an Adjunct to Psychotherapy," *Journal of Clinical and Experimental Psychopathology* 18, no. 2 (April-June 1957): 163.

¹⁸ My research attempts to complicate historians' understanding of the paradigm shift from a psychoanalytical orientation in outpatient psychiatry toward one that was biological and pharmacological in nature. Scholars such as Andrea Tone, Nicolas Rasmussen, and Jonathan Metzl have commented on the "mainstreaming" of psychotropic drugs as they entered the homes and everyday lives of outpatient sufferers of anxiety and depression thanks to prescriptions by increasing numbers of physicians who were not psychiatrists. For such an example involving anxiety and the tranquilizer meprobamate (Miltown), see Tone, "Listening to the Past"; and Tone, "Letter to the Editor."

¹⁹ Narcoanalysis had not necessarily disappeared by the late 1950s, either. In a 1958 article for *Time*, psychiatrist Nathan Kline observed the continued use of hypnotic drugs for psychoanalysis. At the same time, however, Kline made the stinging observation that drugs should allow permit the "wide awake subject to recall in detail precisely what he wants to." See, "Drugged Future?" *Time*, February 24, 1958, <http://www.time.com/time/magazine/article/0,9171,863001,00.html> (accessed August 5, 2009).

experience the violent emotions of battle and enabled clinicians to relieve their patients' anxiety or hysterical symptoms. As the war progressed, studies published by a number of psychiatrists found that more long-standing cases of "conversion hysteria" responded better to excitatory agents, particularly methamphetamine. As civilian outpatient psychiatric practice came to the fore after the war, psychiatrists began to explore the potential of abreaction even more.²⁰

A number of abreactive agents were demonstrated with some success in the late 1940s and early 1950s, including carbon dioxide and barbiturates.²¹ However, the majority of psychiatrists who experimented with chemically induced abreactions showed a preference for amphetamine and methamphetamine.²² By the late 1950s, the introduction of methylphenidate gave psychiatrists who believed amphetamine to be too volatile and dangerous for use in their private practices an alternative deemed "safe and effective" by its supporters.²³ Despite the introduction of methylphenidate as a less harsh drug, amphetamine and methamphetamine would continue to remain popular choices among a number of psychiatrists through the early 1960s.

Abreaction in Practice

During the course of their treatment with a patient, psychiatrists did not mechanistically resort to the use of drugs in psychoanalysis. Generally, most psychiatrists

²⁰ Robert Blair, Susanne Shafar, and Jurand Krawiecki, "Methylphenidate ('Ritalin'): An Adjunct to Psychotherapy," *Journal of Mental Science* 105 (October 1959): 1032-3.

²¹ *Ibid.*, 1033.

²² See, for example, M. Straker, "Intravenous Methamphetamine—Adjuvant to Psychotherapy," *American Journal of Psychiatry* 109, no. 11 (May 1953): 853-855; and E. Tuttle, "Hyperventilation in a Patient Who Stammered: Methedrine As an Adjunct to Psychotherapy," *American Journal of Medicine* 13, no. 6 (December 1952): 777-781.

²³ Ferguson et al. "Methylphenidate (Ritalin) Hydrochloride Parenteral Solution," 1303.

who used pharmacological aids first attempted psychotherapy without them.

Nevertheless, psychiatrists found that some patients, for one reason or another, failed to respond favorably to psychoanalysis. In one survey of patients, researchers noted that failure often resulted from the inability to communicate effectively, impersonal attitudes on the part of psychoanalysts toward their patients, difficulties in relating to the psychoanalyst, failure to experience meaningful emotional reactions during the therapeutic hour, or mounting anxiety as treatment progressed.²⁴ Key to psychoanalysis' success, its practitioners claimed, was good communication and strong rapport between the psychiatrist and patient.

A potential beneficiary of drug-aided psychotherapy included World War II veterans.²⁵ In one case from 1958, a 40-year old advertising executive had seen a psychiatrist in New York for anxiety and depression.²⁶ The patient had occasionally suffered from these symptoms following his service in the navy during the war. According to the psychiatrist's notes, after three months of "passive, intellectual, detail-weighted discussions," the advertising executive began to improve in mood.²⁷ But the psychiatrist believed there was still a poor therapeutic relationship. So, he made the decision to administer the patient with Methedrine during the session. The patient arrived

²⁴ Theodore Rothman and Keith Sward, "Studies in Pharmacological Psychotherapy. I. Treatment of Refractory Neuroses and Personality Disorders with Thiopental (Pentothal) Sodium and Methamphetamine (Desoxyn)," *AMA Archives of Neurology and Psychiatry* 75, no. 1 (January 1956): 96

²⁵ For more on postwar rehabilitative psychiatry, see Hans Pols, "The Repression of War Trauma in American Psychiatry after World War II," in *Medicine and Modern Warfare*, ed. Roger Cooter, Mark Harrison, and Steve Sturdy (Amsterdam: Rodopi, 1999), 251-276. A contemporary psychoanalytical perspective on the same issue may be found in Edward A. Strecker, *Their Mothers' Sons: The Psychiatrist Examines an American Problem* (Philadelphia: Lippincott, 1946), 13-22.

²⁶ Gordon Templeton and Vann Spruiell, "Methedrine Interviews: Clinical and Rorschach Studies," *Psychiatric Quarterly* 32, no. 4 (October 1958): 788.

²⁷ *Ibid.*, 788.

about an hour or so before his session, a medical work-up was done, and the drugs were administered to him intravenously.²⁸ Under the influence of methamphetamine, the doctor observed that the patient attempted to maintain the same intellectual control—“but in spite of himself, the patient kept returning to his service years,” which he had never before discussed. Experiencing mounting tension as he talked, the patient told the psychiatrist excitedly about a rescue operation he had directed during the war, in which he felt responsible for the death of the group leader. In the words of the psychiatrist—“he abreacted strongly, and with relief.”²⁹

The abreaction provided the therapist with important leads. Continuing to administer methamphetamine, the patient revealed more about his brother, his father, sexual identification, and other “dynamic problems.” Thanks to Methedrine, for the first time, the patient was able to discuss his “transference feelings, relate fantasies, and tell his needs affectively.” After time, the psychiatrist observed how the drug-mediated interviews shifted to the patient’s hostility toward his mother, allowing the psychiatrist to make a definitive diagnosis and work toward a cure.³⁰

²⁸ The issue of intravenous administration requires an explanation. The psychiatrists depicted in this chapter utilized this means of preparing patients for therapy sessions, and some drug advertisements promoted injectable forms of the pharmaceuticals for these applications. However, it seems just as likely that clinicians may have resorted to oral versions of amphetamine and methylphenidate for facilitating psychoanalysis. The notion that all psychiatrists utilized intravenous administration methods must be balanced against the possibility that the psychiatrists publishing articles on its use were not a majority. The procedure would have been quite technical, both in terms of skill and equipment, for most outpatient offices, especially those not affiliated with a hospital. In addition, patients themselves may have been resistant to intravenous drugs. Finally, Andrea Tone has noted evidence of the oral dispensing of anxiolytics (first Myanesisin, then Miltown, and finally, Librium and Valium) as “adjuncts” during this time. While this chapter privileges intravenous administration, it is also important to bear in mind that this method of delivery may not have been the only one for psychiatrists interested in the procedure.

²⁹ Templeton and Spruiell, “Methedrine Interviews,” 788.

³⁰ Ibid.

Psychiatrists' Understandings of Drugs as Adjuncts

It would be unfair and incorrect to argue that outpatient psychiatrists who elected to give their patients stimulants as part of therapy sessions understood the drugs merely in terms of their effects during the therapeutic interview. The case of one psychiatrist practicing in Philadelphia in the late 1950s illustrates that even as these drugs enhanced the nature of the doctor-patient relationship, their benefits extended to alleviating symptoms in patients suffering from depression. In 1957, Dr. A. Dorothea Pohlman reported her findings on the use of Dexedrine within her private practice. As a neuropsychiatrist who had fifteen years of experience with the use of amphetamines, Pohlman appreciated the ability of psychostimulant drugs to relieve the symptoms of conditions she believed had an organic basis, such as depression. However, the psychiatrist had come to believe that drugs such as Dexedrine might have another important application: a specific adjuvant, or adjunct, for psychotherapy.

In contrast to the use of drugs for the management of depressive symptoms, Pohlman believed that psychotherapy's goal was to aid the patient in the process of personality growth, "to gain a better understanding of himself and to develop new or modified ideas, attitudes, and patterns of feeling and behavior."³¹ In order for such psychotherapy to be successful, however, two things were required: the establishment of strong rapport between the physician and the patient, and the cultivation of an "experimental attitude" by the patient. For psychiatrists such as Pohlman, success or failure of psychotherapy was generally in the hands of the patient rather than the physician. This point is not insignificant where the decision to resort to drugs as an

³¹ Pohlman, "Use of d-Amphetamine Sulfate," 159.

adjunct to was concerned. As Pohlman considered the role of the patient in psychotherapy:

The psychotherapeutic interview is primarily an emotional experience, a step forward in the growth process that should lead to effective action on the part of the patient. The prelude to action must be a decision arrived at by the patient. Some decisions representing an important change in the patient's attitudes and patterns of reaction can be made only after weeks or months of therapy. Implementation of such decisions is often a problem of considerable magnitude for the patient. Even for relatively simple decisions, the vital step from decision-making to action is sometimes long-delayed.³²

The psychiatrist's resolve to introduce drugs into the session may have been a choice made actively by the therapist, but it was also a decision made passively by a patient unresponsive to the psychotherapeutic interview.

What of these patients, then? One case of Pohlman's is particularly enlightening. A 37-year old Miss R. R. sought psychiatric treatment for the relief of "panic attacks, depression, insomnia, nausea, gagging, inability to relate to people, and a 'constant state of tension.'" Prior to seeing the psychiatrist, she had been under the care of other clinicians who had administered ECT and months of sodium thiopental interviews as means to help R. R. with her condition.³³ Neither seemed to help. After a hysterectomy at the age of 32, the psychiatrist noted that her patient had become more withdrawn and discouraged.³⁴

Under the care of Pohlman, R. R. undertook a series of interviews, during which, "she spoke of herself in a detached, impersonal way and said she wished she could be

³² Pohlman, "Use of d-Amphetamine Sulfate," 159.

³³ Sodium thiopental (Sodium Pentathol, when referring to the proprietary version produced by Abbott Laboratories) is short-acting barbiturate. Perhaps its best known use is as a "truth serum" during interrogations, which were outgrowths of narcoanalysis. The implication in R. R.'s case here is that the patient had unsuccessfully attempted narcoanalysis before her psychiatrist decided to resort to amphetamine-mediated psychoanalysis.

³⁴ Pohlman, "Use of d-Amphetamine Sulfate," 162.

‘just a walking mind.’” R. R. soon became aware of “some resentment” toward her family, whose attitudes had been “critical, cynical, and belittling.” In a second series of interviews, R. R. disclosed more about her relationship with her mother.

During the next six interviews, she discussed her mother’s oft-repeated statement to her, “You and I are one,” and her intellectual realization that this was not true. She also spoke of a compulsion to stay up late at night talking with her mother. After telling herself for years that she wanted to stay up talking, that she was comfortable only at home, and that she did not want to have any social life, she faced the true situation intellectually and discovered that these things were not so. She was dead tired and hated those “dreary, poisonous talks.”³⁵

Seeking to break this debilitating pattern, the psychiatrist decided to introduce amphetamines as an adjuvant. In contrast to the practice of some psychiatrists who administered amphetamines solely during the psychotherapy sessions, R. R.’s doctor also wrote her a prescription for the daily use of the medication.

During the first day of taking 2.5 milligrams of Dexedrine, the patient reported enthusiastically, “I can think better. It makes me feel good.” Under the influence of dextroamphetamine, R. R. “went to bed earlier, arose earlier, arrived at work on time, and did her work with greater ease.” According to the psychiatrist’s notes, “Then she slipped back to her old pattern, ‘forgot’ her medicine, and felt that she was only a ‘shell, with nothing inside.’” After struggling with inner conflicts for several weeks, she announced her awareness that other people had different attitudes toward life than those held by her family. R. R. then began taking the medication again, “went out several times with girls from the office, and reported that she was seeing herself and her mother as separate personalities.” At this point, a relative offered to introduce her to “a very nice man.” The therapist encouraged her to make a date with him. One tablet, 5 milligrams of Dexedrine, at noon on the day of the date “lifted her mood and, with the physiologic stimulus added

³⁵ Pohlman, “Use of d-Amphetamine Sulfate,” 162.

to her inner motivation and the therapist's encouragement, she was able to take another successful step forward."³⁶

What are we to make of the case of R. R. and the therapeutic relationship between her and her psychiatrist? We only have the record of the psychiatrist, but it allows for some conclusions. Twelve weeks of psychotherapy involving talk therapy between the therapist and patient were sufficient enough to reveal some of the problems faced by the patient, as the psychiatrist understood them. In order to break through the perceived impasse, the patient's relationship with her mother, the psychiatrist felt that amphetamines would be helpful. At the same time, the use of drugs appears to have been as much a choice of the patient's as much a decision by the therapist, at least according to the psychiatrist's notes. The patient had requested "help in breaking the pattern," and the psychiatrist deemed drugs an appropriate, if not ideal, means of rendering aid.

On the part of the psychiatrist, there never seemed to be any fear that drugs would impair the doctor-patient relationship. In this case, psychotherapy sessions between R. R. and her psychiatrist were key to enabling the patient to understand her own problems and make decisions to address them. What psychotherapy apparently could not do, however, was enable the patient to act on the plans of action established during her conversations with the psychiatrist. Here, Dexedrine helped by lowering the patient's inhibitions and giving her the confidence to act. Psychotherapy established a diagnosis for both the benefit of the psychiatrist and patient, as well as a course of treatment. The stimulant therapy, however, was identified as the key for realizing that course of action. Note, for example, an incident involving a setback experienced by R. R. at work:

³⁶ Pohlman, "Use of d-Amphetamine Sulfate," 162.

She had been expecting a salary increase that did not come through, but she had never been able to speak to her superior at work. “It gets me violently upset to have to stand up to anyone. That’s when I get the panic,” she said. “I’ve always been just a semblance of humanity, a frightened rabbit running around.” After a discussion of her resentment, anxiety, and panic regarding her disappointment, she decided to speak to her employer. The use of medication before she went to work enabled her to mobilize her energies to speak on her own behalf.³⁷

In her sessions with the psychiatrist, R. R. was able to determine and work out the basis of her neurosis, not to mention develop plans to overcome those obstacles and to achieve her specific goals. But it was the use of amphetamines that provided her with the added confidence to realize her goals. This scene was enacted frequently, as the medication helped R. R. to act on her decision to buy a car, to learn to drive it, and finally, to move into an apartment on her own. However, just as empowering as Dexedrine was in terms of allowing her to achieve a particular goal, occasional failures without the drugs suggested a dependence on it. “Frequently Miss R. R. ‘forgot’ to take her medicine when she thought she wanted to succeed in some major undertaking,” her psychiatrist noted. “After several attempts failed, accompanied by anxiety, panic, and depression, she realized that she had been feeling guilty at wanting to leave her mother. ‘Forgetting’ meant failure and self punishment. With this insight, she would take a dose of the drug and act on a previously made decision.” Despite occasional setbacks, her psychiatrist declared the treatment a success, noting that since she had moved into her own apartment, the patient had few occasions to need either psychiatric care or medication and has “progressed well in her relations with others and in her attitudes toward herself and toward life.”³⁸

³⁷ Pohlman, “Use of d-Amphetamine Sulfate,” 162.

³⁸ Ibid.

Psychiatrists such as Pohlman were able to meld talking cures with drugs to provide a comprehensive course of therapy for their patients' neuroses. As these psychiatrists understood them, the two aspects of such treatment worked in tandem and did not interfere with the doctor-patient relationship. In fact, drugs such as Dexedrine held the potential to strengthen that relationship, as Pohlman noted that the simple amelioration of mood provided by amphetamines tended to hasten the development of a rapport between patient and physician. The specific action of psychostimulant drugs was also notable:

Because the effect of *d*-amphetamine sulfate on the subject is almost immediate, the patient's confidence in the physician is increased. He feels the effects of the medicine with the first dose, he knows it is not a placebo, and he realizes his therapist not only wants to help him but believes he is capable of handling a potent medicine.³⁹

The confidence aroused by the effectiveness of amphetamines, Pohlman observed, helped the patient cultivate the "experimental attitude" necessary for the success of such drug-mediated psychotherapy.

In its bid to heal patients of neuroses believed to have a psychosocial origin, the practice of outpatient psychiatry during the 1950s bore a striking similarity to the "shared faith" and "conspiracy to believe" that Charles Rosenberg identified as the hallmarks of heroic therapies.⁴⁰ Patient and physician alike had to hold a common understanding of the body, disease, and therapeutics in order for psychoanalysis to possess legitimacy. When a patient's inability to communicate with his or her therapist threatened the expertise of the

³⁹ Pohlman, "Use of d-Amphetamine Sulfate," 162-163.

⁴⁰ Charles Rosenberg, "The Therapeutic Revolution: Medicine, Meaning, and Social Change in Nineteenth Century America," in *Explaining Epidemics*, 14.

psychiatrist, stimulants provided a means to maintain the therapeutic relationship and ensure the psychiatrist's authority as a healer.

Patient Understanding of Drug-Mediated Psychotherapy

Psychiatrists reporting on their experiences were often forthright about their reasons for utilizing psychostimulants in the therapeutic session. If they privileged positive results from their use, they were at least thoughtful about how the drugs affected the doctor-patient relationship. What about the patients? Did they have such a complimentary view about the use of pharmaceuticals as part of psychoanalysis? Historian Roy Porter has called attention to the need for historians of medicine to consider "the sufferers' role in the history of healing."⁴¹ Admittedly, patient perceptions of these procedures are more difficult to assess, as their understanding of these practices typically filtered through the observations of psychiatrists in their notes. Nevertheless, it remains important, where possible, to give voice to the patients who received drug-mediated psychoanalysis during this period.

One study from the mid-1950s conducted by psychiatrist Theodore Rothman and psychologist Keith Sward, both of the University of Southern California, considered the motivations and reactions of the patient in the introduction and use of psychostimulants in psychotherapy. Rothman and Sward surveyed 31 patients they termed "psychotherapeutic failures."⁴² These patients had terminated their prior therapeutic effort out of a feeling of "intense dissatisfaction" and on the grounds that they had "gained

⁴¹ Roy Porter, "The Patient's View: Doing Medical History from Below," *Theory and Society* 14, no. 2 (March 1985): 175-198.

⁴² Theodore Rothman and Keith Sward, "Pharmacologic Psychotherapy—Verbal Communication in Psychoanalysis and Psychotherapy," *Proceedings of the Annual Meeting of the American Psychopathological Association*, 48th Annual Meeting (1956-1958): 182.

nothing” from the therapy. Probing these patients further, Rothman and Sward determined that the main cause of the breakdown in the therapeutic relationship related to an inability to communicate with the psychotherapist. These so-called therapeutic failures fell into two categories. First, there were patients who were characterized as underproductive in terms of their communication with the psychotherapist and who were labeled as the “silent ones” as a result. Conversely, a second group of patients were viewed as overproductive due to the fact that they had “flooded their previous therapists with voluminous, repetitious, ritualistic speech that seldom left the plane of pseudocommunication or [had] the level of an almost impregnable defense against significant and revealing communication.”⁴³

The study also suggested how patients’ expectations were higher for psychoanalysts than other psychotherapists. In the estimation of all the patients surveyed by Rothman and Sward, the psychoanalyst was “enshrined originally as a highly respected prestige figure and invested with all the aura that surrounds the healer who is capable of relieving mental anguish.”⁴⁴ When these patients began to sense inadequate communication or interaction emerging from their sessions, their first inclination was to place blame upon themselves and exonerate the experts for the failures. However, Rothman and Sward noted that “as time wore on and the psychoanalyst failed to live up to expectations—at least in the patient’s eyes—this self-punitive attitude shifted to one of growing resentment towards the therapist.”⁴⁵ The degree of such resentment varied,

⁴³ Rothman and Sward, “Pharmacologic Psychotherapy,” 183.

⁴⁴ *Ibid.*, 187.

⁴⁵ *Ibid.*

however, and often depended upon the attitude of the psychiatrist and his or her relationship to the patient.

However concerned an attitude they had toward their patients, even the most active and engaged psychoanalysts were likely to engender hostility because they usually reiterated the standard analytic instructions and asked “under-verbalizing” patients to do what they could not: “to free-associate, to bring in his dreams, to verbalize.” Of course, the situation was no better between a patient and a “psychotherapist who was up against a psychotherapeutic stalemate [who] remained inactive or trapped by his own therapeutic rituals.” Therapists who clung to predominantly impersonal, nondirective, and permissive approaches came to be perceived by their patients as cold, unfeeling, uninterested, or threatening spectators. As one patient recalled of such an episode, “My analyst kept staring out of the window when I could not say a word.”⁴⁶ Another patient who could only muster a few words over several months of intensive therapy recalled, “I could hardly get a word out, yet my analyst acted as if he didn’t care what happened to me. It was like talking to a wall. He often sat there, just staring at my face or at his empty notebook.”⁴⁷

Up to this point, there has been little distinction made between psychoanalysis, those techniques based on the ideas of Sigmund Freud and his disciples, and psychotherapy, those talk therapies based on other systems.⁴⁸ However, the findings of

⁴⁶ Rothman and Sward, “Pharmacologic Psychotherapy,” 188.

⁴⁷ Ibid.

⁴⁸ As psychoanalysis was contending with how pharmacotherapies simultaneously posed a threat and held a promise, the field was also being transformed by the emergence of alternative psychotherapeutic approaches. Gestalt therapy, developed in the 1940s and 1950s by psychiatrist Fritz Perls, psychologist Laura Perls, and sociologist Paul Goodman, emphasized the relationship between individuals and their social and physical environments as key for realizing personal improvement. Cognitive behavioral therapy

Rothman and Sward are notable because they did actively distinguish between the two. Of the 31 “psychotherapeutic failures” surveyed by the two researchers, 19 had received psychoanalytic care by a member of the American Psychoanalytic Association, the American Society of Adlerian Psychology, or the Society of Analytical Psychology, and who was an adherent of the traditions established by Sigmund Freud, Carl Jung, or Albert Adler. The remaining 12 patients had received a more generic form of psychotherapy, either by psychiatrists or clinical psychologists who were qualified as diplomates by their respective professional societies, either the American Board of Psychiatry and Neurology or the American Board of Examiners in Professional Psychology of the American Psychological Association. The 12 patients who had general psychotherapy seemed to retain a more friendly disposition toward their former therapists, generally viewing them as “warm,” “friendly,” “earnest,” “understanding,” and “actively interested in [their] welfare.” Also, such patients tended to blame themselves rather than the psychotherapist for the therapeutic failure. Typical sentiments of such patients included, “I think my former therapist understood me,” “he did the right thing,” or “it was I who failed.” Even if patients arrived at dead ends in their therapy, they frequently remarked that they had “gotten rid of a lot of emotion” and had “understood” or “accepted” many of their therapist’s interpretations.

By contrast, those patients who received psychoanalysis held a more negative view of their therapists and blamed them for the failure of psychoanalysis to alleviate

(CBT), which also emerged around this time under the leadership of psychologist Albert Ellis and psychiatrist Aaron T. Beck, presented another set of techniques to help a range of mental and emotional problems from anxiety and depression to compulsive eating and substance abuse. Some psychoanalysts’ embrace of drugs to improve outcomes represented not only a response to psychopharmacology, but also to a changing psychotherapeutic marketplace. For more on the rise of psychotherapeutic alternatives to Freudian psychoanalysis in the postwar United States, see Philip Cushman, *Constructing the Self, Constructing America: A Cultural History of Psychotherapy* (Boston: Addison-Wesley, 1995), chap. 8.

their problems.⁴⁹ The differing perspectives of these two groups of patients had a certain reflexivity about them, Rothman and Sward found. Confronted with mounting evidence of a therapeutic failure, the clinical psychologist had, as a rule, referred his or her case to an “eclectic psychiatrist.” The psychoanalysts, on the other hand, “perhaps more sensitive to the consideration of their status in our culture,” seemed less inclined to acknowledge defeat or refer their intractable patients elsewhere.⁵⁰

To overcome the communication problems they described in these patients, Rothman and Sward reported on their experiments with pharmacological psychotherapy, utilizing methamphetamine and a suitable antagonist drug (presumably a barbiturate or minor tranquilizer). They noted that a brief period of somnolence, not lasting more than few minutes, followed the administration of the drugs. At this point, patients who found the drug-mediated psychotherapy to be a new and effective experience often remarked, “Why didn’t we use this from the start?” “Why didn’t someone think of this before?” “Why did I have to suffer so long?” or “What a relief!” In other instances, the initial responses of patients to the drugs included brief sobbing or crying. With the apparent breakthroughs induced by pharmacologically mediated psychotherapy, Rothman and Sward noted that patients, in succeeding interviews, “show a gradually increasing urgency to bring the self back as an object of communication or a greater readiness to verbalize about some central areas of conflict.” With expected variations, patients reported “feeling better.” And in resolving the impasses of previous therapy, they began

⁴⁹ Rothman and Sward, “Pharmacologic Psychotherapy,” 189.

⁵⁰ Ibid.

to “shed in varying degrees the feelings of frustration and hostility that had been part and parcel of [their] previous therapy.”⁵¹

While Rothman and Sward’s findings suggest a bias in favor of stimulant-aided therapy, they also reflected a genuine effort to understand patient sentiments toward such techniques. Patients were reported as saying, in their own words, “I can talk about things without looking the other way,” “It’s as though the walls of self-consciousness were torn away,” “Hiding my innermost thoughts from another person’s scrutiny no longer seems important,” or “I can let go with whatever I am thinking and feeling, in the presence of another human being.”⁵² When the outcomes of drug-mediated psychotherapy were positive, the researchers concluded, patients tended to exhibit warmer and friendlier attitudes toward their therapists. With the aid of amphetamines, the communicative relationship between doctor and patient was salvaged.⁵³

In restoring the doctor-patient relationship by enhancing communication between the two sides, however, it is important to probe just how each side benefited. The physiological effects of amphetamines in lowering inhibitions and facilitating communication on the part of the patient are apparent. Less clear is how the administration of drugs in patients improved communication on the part of the physician. Perhaps we might suggest that drugs did not benefit only the patients taking them, but also the psychoanalysts and psychotherapists whose legitimacy was based on their ability to communicate effectively with patients.

⁵¹ Rothman and Sward, “Pharmacologic Psychotherapy,” 193.

⁵² *Ibid.*, 194.

⁵³ *Ibid.*

The Gendered Implications of Drugs and Psychotherapy

Some historians have contended that modern psychiatry has served as a vehicle for reinforcing certain gender norms. In particular, Elizabeth Lunbeck has claimed that the “new psychiatry” of psychoanalysis that emerged during the early decades of the century became less concerned with addressing problems of insanity and more invested with issues of normality, particularly as they related to gender.⁵⁴ Likewise, scholars such as Jonathan Metzl and Ilina Singh have elaborated on the ways in which the rise of biological psychiatry reinforced traditional, even sexist, ways of ordering gender.⁵⁵ One cannot say with absolute clarity that clinicians using stimulants to initiate psychoanalytic dialogue intended for the drugs to reinforce a particular set of gender roles. Nevertheless, ideas of normality deserve consideration where the use of methylphenidate for psychiatric interviewing and direct prescribing are concerned.

Historians relatively sympathetic to the aims of Freudian psychoanalysis, such as Nathan Hale and even Gerald Grob, have emphasized psychiatry’s efforts to restore neurotic patients’ functionality within society. However, scholars such as Lunbeck have countered that normality was the real aim of psychoanalysis. To the extent that the two therapeutic goals coexisted and were mutable, gender was always implicated. It is difficult and unfair, perhaps, to blame psychiatrists for upholding normative ideas that were embedded within the practice of outpatient psychiatry at the time. On the other hand, it is necessary to remember that psychoanalysis was built upon a foundation of

⁵⁴ Elizabeth Lunbeck, *The Psychiatric Persuasion: Knowledge, Gender, and Power in Modern America* (Princeton, NJ: Princeton University Press, 1994).

⁵⁵ Metzl, *Prozac on the Couch*; and Singh, “Not Just Naughty.”

gendered concepts.⁵⁶ Individual psychiatrists committed to Freudian principles frequently advanced gendered explanations of neurosis and its treatment, not necessarily in a bid to change society, but in an attempt to help their patients fit into a society likewise ordered according to gender.

For example, a 44-year-old housewife sought help from a psychotherapist for a “severe obsessional neurosis with hand-washing” and “dirt-phobia.” According to her case history, the patient had been raised by an “unstable but house-proud mother” and a “short-tempered father.” As a result of her volatile childhood, the patient grew up to be “always very tidy and very clean about her person.” The problem only worsened after her marriage to her husband, when “her phobia of dirt became increasingly severe so that her time became completely occupied with superfluous activity and her house became a filthy chaos. This among other factors led to the break up of her marriage.”⁵⁷

Attempting to determine the origin of the patient’s neuroses, the doctor noted that psychotherapy had been tried to no avail, as the housewife’s “emotional problems were intellectualized and she presented considerable resistance and inhibition.”⁵⁸ Likewise, other drugs such as intravenous Methedrine and Pentothal were of no use in helping the doctor better understand the patient’s problem. Then, Ritalin was used: “Marked relaxation and release of tension, and good rapport was engendered, with recovery of forgotten incidents, real and fantasied, accompanied by marked abreaction. The capacity to criticize herself was improved resulting in reduction of symptoms and ability to

⁵⁶ Shorter, *History of Psychiatry*, 176-77.

⁵⁷ Blair, Shafar, and Krawiecki, “Adjunct to Psychotherapy,” 1040.

⁵⁸ Ibid.

overcome them when they reappeared.”⁵⁹ The psychotherapist deemed the treatment a success, noting that the patient was steadily improving, beginning to cultivate better relationships with other people, and considering future plans. In considering the outcome, the therapist credited methylphenidate:

With Ritalin she became able to cut short her own defensive digressions (recognizing their true nature!) and spontaneously progressed with the main deeper theme.... This was a difficult psychiatric problem, almost given up as incurable after attempts at psychotherapy and abreaction with [M]ethedrine and pentothal. With the aid of Ritalin psychotherapy made considerable progress, resulting in alleviation of the patient’s symptoms.⁶⁰

The patient’s neuroses, stemming from childhood events, carried gendered implications, including her inability to keep house and maintain her marriage to her husband.⁶¹ Only by ascertaining the patient’s “real” problem with the aid of Ritalin was the therapist able to place the patient back onto the road to recovery, not to mention better domesticity. Similar cases involving Ritalin abound. The use of Ritalin only underscored already existing notions held by patients and psychiatrists. When a patient enrolled in a study testing the efficacy of methylphenidate in reducing obesity reported to her doctors that “after Ritalin she could not find enough housework to occupy her that morning,” the drug was merely interacting with established worldviews.⁶² It is upon the users and not the

⁵⁹ Blair, Shafar, and Krawiecki, “Adjunct to Psychotherapy,” 1040.

⁶⁰ Ibid.

⁶¹ For more on ideals of middle class women and families during the Cold War era, see Elaine Tyler May, *Homeward Bound: American Families in the Cold War Era* (1988; reprint, New York: Basic Books, 1999); Rosalind Rosenberg, *Divided Lives: American Women in the Twentieth Century*, rev. ed. (New York: Hill and Wang, 2008), chap. 5; and Kenneth T. Jackson, *Crabgrass Frontier: The Suburbanization of the United States* (New York: Oxford University Press, 1985). In addition, Betty Friedan, *The Feminine Mystique* (1963; reprint, New York: W. W. Norton & Company, 1997) remains the classic critique of the suburban lives of women during the Cold War era.

⁶² FitzGerald and McElearney, “Clinical Trial of Cafilon and Ritalin,” 398.

drug itself where emphasis must be placed in understanding Ritalin's role in perpetuating gendered ideals.

At the same time, it is possible that pharmacologically mediated therapy may have spared some women from institutionalization and harsher therapeutic interventions such as ECT and lobotomy. Consider again the case of R. R., who had already undergone ECT before finding success in drug-mediated psychoanalysis. As historian Joel Braslow has noted, somatic alternatives also tended to be gendered, and a disproportionately higher number of female patients received lobotomies than male patients.⁶³ In a number of cases, women receiving lobotomies during the late 1940s and early 1950s were also subject to clitoridectomies as part of their therapies.⁶⁴

The use of Ritalin could also be implicated in reinforcing the gendered behavior of men. In one case, a widower suffering from severe depression and fatigue following the death of his wife was prescribed Ritalin twice a day "in an attempt to maintain him at his job and dissipate his feelings of fatigue and depression. Improvement was gradual but noticeable within 10 days. The patient continued in his job—at first with questionable

⁶³ Braslow notes that during this period women received between 60 to 75 percent of lobotomies performed in mental hospitals throughout the nation. Even more striking, however, are his findings from Stockton State Hospital in California, where 85 percent of the lobotomies performed were on women. See Braslow, *Mental Ills and Bodily Cures*, 153-154.

⁶⁴ Braslow observes that psychiatrists at Stockton performed clitoridectomies alongside lobotomies to address the "troubling symptom" of masturbation that accompanied women's madness. As with their decision to operate on frontal lobes of the brain, psychiatrists' cauterization of women's sexual organs represented an attempt to "extinguish pathological behavior." Male patients were not subject to similar interventions. See Braslow, *Mental Ills and Bodily Cures*, 165-166.

At the same time, however, he finds that gender was not an indication of ECT in the same manner as psychosurgery. He contests arguments by critics of ECT that the therapy was used as a form of discipline, and sides with historians such as Ellen Dwyer and Nancy Tomes that treatment of female patients cannot be reduced to misogynistic doctors who acted with impunity on women. Rather, Braslow argues that ECT could, at times, result in the formation of therapeutic relationships between patient and psychiatrist, with a complex "interplay between care and control." See Braslow, *Mental Ills and Bodily Cures*, 117-124.

efficiency. Later, this improved.”⁶⁵ In another case, Ritalin was credited as a solution for a stockbroker suffering from depression and agitation and who “felt guilty about his failure at work, was inattentive to his family, and had begun to neglect his own appearance.”⁶⁶ As with women, Ritalin did not create these gendered notions of masculinity in postwar America, but its use concurred with and reinforced previously held ideals of patients and physicians about the line between normality and disorder. Insomuch as men’s ability to continue their breadwinning ways constituted a primary concern of psychiatrists, their concomitant understanding of a drug to maintain gendered expectations placed upon patients was a logical extension of that interest.

Conflicts over Drug-Aided Psychotherapy

Despite the potential promises that drug-aided psychotherapy held for both patient and practitioner, not all psychiatrists advocated their use in the 1950s and 1960s. Historian Nathan Hale has observed how some analysts initially resisted the use of pharmaceuticals, particularly the anxiolytics, on the grounds that they did not produce the permanent personal development that was the cornerstone of psychoanalysis.⁶⁷ But there was also some skepticism about the role of amphetamines and methylphenidate, which supposedly reinforced psychoanalytic practice. Some leaders in the field expressed concern that the use of drugs often interfered with the doctor-patient relationship.

Few, if any, of the most ardent supporters of the use of drugs in psychotherapy advocated the nondiscriminatory use of pharmaceuticals. Even the most enthusiastic

⁶⁵ Avrohm Jacobson, “The Use of Ritalin in Psychotherapy of Depressions of the Aged,” *Psychiatric Quarterly* 32, no. 3 (July 1958): 479.

⁶⁶ *Ibid.*, 480-81.

⁶⁷ Hale, *Rise and Crisis of Psychoanalysis*, 316. By 1976, three-fifths of psychoanalysts would report using pharmaceuticals in their practice.

practitioners conceded that the techniques were not for everyone. Nevertheless, proponents of such methods stressed that among patients for whom traditional psychoanalysis had failed, drugs held the potential to foster productive and efficacious sessions. Clinicians resorting to the use of such drugs consistently pointed to the difficulties posed by non-communicative or uncooperative patients. Representative of such views were those of psychiatrist A. D. Jonas:

When reaching a plateau or a resistance during the psychodynamic treatment of the average psychoneurotic individual, a time-consuming, patient attitude on the part of the psychiatrist may or may not eventually bring forth favorable results. The very nature of the repressed emotional material with its complicated defensive systems makes the conventional methods appear unsatisfactory....An ideal situation would result if there were available agents with a selective and predictable activity on the central nervous system.⁶⁸

Sharing Jonas's insights were other psychiatrists who hailed drugs such as methamphetamine and methylphenidate as the "agents" they had long sought. As another clinician referring to the use of the anxiolytic Librium proclaimed, "Fortunately, since the advent of chemotherapeutic drugs in psychiatric practice, the therapist's problem in obtaining full patient cooperation has to a large extent been overcome."⁶⁹ For psychiatrists who advocated the combined use of pharmacotherapy and psychotherapy, their motives ranged from enhancing communication with their patients to eliciting their outright cooperation. What united these disparate views, advocates for the use of psychostimulants in outpatient psychotherapy realized that without these drugs, successful "talking cures" could be difficult, if not impossible, to obtain. Supporters of drug-induced abreactions occasionally invoked psychoanalytical forebears such as

⁶⁸ A. D. Jonas, "The Adjunctive Use of an Intravenous Amphetamine Derivative in Psychotherapy," *Journal of Nervous and Mental Disease* 119, no. 2 (February 1954): 135.

⁶⁹ Nina Toll, "Librium as an Adjunct to Psychotherapy in Private Psychiatric Practice," *Diseases of the Nervous System* 21 (May 1960): 264

Sigmund Freud, Josef Breuer, and William S. Sadler to defend their practices. They wondered how the use of pharmaceuticals was any different than the hypnosis therapy used by psychiatrists to abreact veterans of the First World War. For such proponents, the use of methylphenidate and methamphetamine was congruous with these earlier measures to facilitate talking cures.⁷⁰

Opposing this group was a more ascetic faction of psychiatrists who argued that the use of such drugs tended to impede the doctor-patient relationship rather than encourage it, especially among psychoanalysts. For example, one psychiatrist denied the value of drugs as adjuncts altogether, opining that they did harm by “stimulating the id when what the patient needs is support for the tottering super-ego.”⁷¹ As Albert Kerenyi, Erwin Koranyi, and Gerald Sarwer-Foner, three leading researchers on the use of drugs in psychotherapy suggested, “Psychoanalytically trained workers prefer to use a psychotherapeutic technique in which it is left to the patient to spontaneously produce the material, as he is able to, without organic adjuvants.”⁷² Writing in 1959, these three researchers at McGill University and Jewish General Hospital in Montreal formulated a provocative hypothesis:

The fact that psychoanalytically trained, or even oriented, psychiatrists tend to avoid the use of abreactive or stimulant drugs in interview situations is well known....It is nevertheless true that these techniques are often used by nonanalytically trained psychiatrists, and it follows that the patient-physician relationship is channelled [sic] into the modalities of this relationship. Since many patients benefit from treatment in the hands of physicians using these techniques,

⁷⁰ See Frederick Hocking, “Methylphenidate Given Intravenously as an Aid to Psychotherapy,” *Medical Journal of Australia* 49, no. 1 (January 20, 1962): 77-78.

⁷¹ Blair, Shafar, and Krawiecki, “Adjunct to Psychotherapy,” 1033.

⁷² A. B. Kerenyi, E. K. Koranyi, and G. J. Sarwer-Foner, “The Use of Intravenous Methylphenidate (Ritalin) in Psychiatric Interviewing,” *Canadian Medical Association Journal* 80, no. 12 (June 15, 1959): 963.

it can only be assumed that, in their hands, this technique produces symptomatic relief in some patients at least.⁷³

Seeking to understand their use in the office setting, these psychiatrists undertook a survey of 25 “qualified psychiatrists” in the Montreal area. Of the respondents, 12 stated that there was “no need” or “no indication” for such drugs as amobarbital, thiopental, or methamphetamine. Another 12 specialists responded that “in select cases they would use such drugs in a hospital setting, but not in office practice in view of the dangers and side effects, especially the possibility of acting-out and agitated behaviour [sic].”⁷⁴ Further examination of the survey reveals that a majority (61%) of 13 analytically trained psychiatrists saw no need for drugs, while only one-third of the 12 non-analytically oriented psychiatrists felt they were required. The findings of Kerenyi, Koranyi, and Sarwer-Foner, confirm that the use of pharmaceuticals in outpatient psychiatry was far from ubiquitous and may have involved only a minority of psychotherapists, particularly psychoanalysts.

Nevertheless, the persistence of the controversy in the psychiatric literature during the 1950s and 1960s suggests that a substantial number of psychiatrists did, in fact, employ psychostimulants and other drugs in their outpatient practices. A key issue borne out in the aforementioned study was the nature of the drugs available for use. The rejection of pharmacological abreactions, according to Kerenyi, Koranyi, and Sarwer-Foner, had less to do with philosophical compunctions than practical concerns. The psychostimulants available to most psychiatrists during the late 1950s were of such a potent and unforgiving nature that few psychotherapists dared to administer them in their

⁷³ Kerenyi, Koranyi, and Sarwer-Foner, “Use of Intravenous Methylphenidate,” 963.

⁷⁴ Ibid.

office. As more moderate drugs such as methylphenidate gained wider acceptance, resistance to using drug-aided psychotherapy seems to have diminished.

Many private practice psychiatrists took a more moderate, pragmatic stance on the use of drugs to induce abreactions, by limiting their use to select patients at risk of communication failure. In other cases, the decision to resort to pharmaceuticals related to the responses, or “material,” the analyst sought from his or her patient. As one psychiatrist summarized,

The kind of material produced by the patient is only partially determined by the effect intrinsic to the drug. It is partially determined by the doctor’s predilection for one kind of material or another, and consequently the effectiveness of his therapeutic response....Therefore indications and contraindications relate to the individual doctor plus chosen medication, not of the medication alone; to the psychotherapeutic plus the pharmacological technique, not to either alone.”⁷⁵

Such a statement, often paraphrased by other practitioners of stimulant-aided psychotherapy, suggests a certain reality: Psychiatrists who resorted to drugs in private practice did so based on their own experiences rather than a strict adherence to dogma. It is important to recall that psychotherapeutic and psychoanalytic practices tended to revolve around three factors: the specificity of the patient’s case, the qualitative observation used by the therapist to make diagnoses and work toward a treatment, and the tacit knowledge and experience of the psychiatrist brought to bear in each case. The clinical literature reveals that practitioners relied on pragmatism when making the decision whether to administer pharmaceuticals to their patients. This fact is an important one in reassessing historians’ understandings about the supposed difference between practitioners of analytical psychiatry and their biologically oriented followers.

⁷⁵ Ian Martin, “‘Ritalin’ and ‘Sodium Amytal’: An Alternative to L.S.D. 25 As an Adjunct to Psychotherapy,” *Medical Journal of Australia* 2, no. 27 (December 31, 1966): 1267.

Another factor was the response of the patient to conventional psychotherapy. As one proponent of occasional drug-mediated sessions cautioned, “I believe that the technique has only a limited place in medical practice....In the treatment of neurosis, there is little place for repeated chemical abreaction in the course of ongoing psychotherapy; however, one does see a few patients whose symptoms are totally disabling and whose verbalization is inhibited.”⁷⁶ It is for these patients—“mute and stuporose psychotics”⁷⁷ and “‘tension-bound’ neurotics who are unable to verbalize”—that methylphenidate and amphetamines seemed most appropriate for this and other psychiatrists, and only in a select few cases.

Though analytically oriented psychiatrists may have viewed Ritalin merely as an adjunct to a talking cure, they nonetheless played an important role in mainstreaming the medication within American psychiatry. The use of Ritalin in private practice meant that the drug had the potential for exposure among a greater number of patients than might have been the case had it been used exclusively in institutional settings. In fact, use of Ritalin in outpatient psychoanalysis legitimized the drug and endowed it with the backing of psychiatry and acceptance of the American public-at-large. Pharmaceutical firms, in particular, would capitalize on this receptivity and advertise stimulants to non-psychiatrists for outpatient disorders, as the very moment that historians such as Tone and

⁷⁶ Leslie Guile, “Intravenous Methylphenidate—A Pilot Study,” *Medical Journal of Australia* 50, no. 2 (July 20, 1963): 96.

⁷⁷ Ibid. The reference to “psychotics” indicates that a number of inpatient psychiatric facilities also engaged in psychoanalytic techniques as part of the diagnostic practices and therapy administered to institutional patients. As the author noted of such cases, “Diagnosis in psychotic stuporose states is now of great importance, with the advent of the pharmacotherapy era and the decreasing reliance upon electroconvulsive therapy as a means of controlling acute psychosis. There are innumerable small signs which help to differentiate a depressive stupor from a catatonic schizophrenic state even in the absence of a history. However, it is very reassuring to have a drug which will produce copious verbalization and make the diagnosis quite clear in seven out of eight cases.”

Metzl have demonstrated that “taking a pill” was viewed as a useful way to treat mental illness directly. By the 1960s, Ritalin would be increasingly freed from its attachment to psychiatrists and talking cures, facilitating its prescription as a stimulant and antidepressant by general practitioners and specialists other than psychiatrists.

Physician and Industry Receptiveness to Drug-Mediated Psychotherapy

In spite of reservations held by some psychiatrists about the effectiveness, safety, and prudence of drug-mediated psychoanalysis, pharmaceutical firms attempted to capitalize on another indication for their stimulant medications. In 1958, Ciba touted Ritalin’s potential for psychotherapy by advertising the drug’s ability to make patients more cooperative and verbally productive (see Figure 3.2). The following year, the company even responded to research that tentatively suggested Ritalin might be effective in psychotherapy for the treatment of alcoholism (see Figure 3.3).⁷⁸ Here again, it is possible to discern how Ciba was receptive to the ways in which psychiatrists utilized Ritalin during the 1950s and attempted to capture yet another market for its use.

⁷⁸ Dietrich Hartert and Albert N. Browne-Mayers, “The Use of Methylphenidate (Ritalin) Hydrochloride in Alcoholism: Preliminary Report on its Diagnostic and Therapeutic Use,” *Journal of the American Medical Association* 166, no. 16 (April 19, 1958): 1982-1985. The use of drug-mediated psychotherapy for alcoholism has also been noted by historian Erika Dyck, who has studied how LSD was similarly utilized at this time. See Erika Dyck, “‘Hitting Highs at Rock Bottom’: LSD Treatment for Alcoholism, 1950-1970,” *Social History of Medicine* 19, no. 2 (August 2006): 313-329.

It is also worth noting that in both of these advertisements for parenteral Ritalin for psychotherapy, the drug is indicated for intramuscular administration. This form of dosing, in which methylphenidate would have been injected once about 10 to 15 minutes before the interview, may have simplified its administration and represented an improvement over intravenous delivery of amphetamines.

HELP PSYCHIATRIC PATIENTS TALK



New Parenteral Ritalin helps patients to verbalize and



makes them more cooperative. Onset

of action is rapid. The mental alertness of patients is

sharpened in as little as



five minutes.

"...it has been found most valuable in helping the

patient to express himself during psychotherapeutic

interviews."^{*}



DOSAGE: 10 to 20 mg. intramuscularly,
10 to 15 minutes before interview

Ritalin[®]

hydrochloride
(methylphenidate hydrochloride CIBA)

SUPPLIED: Multiple-dose Vials, 10 ml.,
each vial containing 100 mg. Ritalin hydro-
chloride in lyophilized form, accompanied
by a 10-ml. vial of sterile solvent.

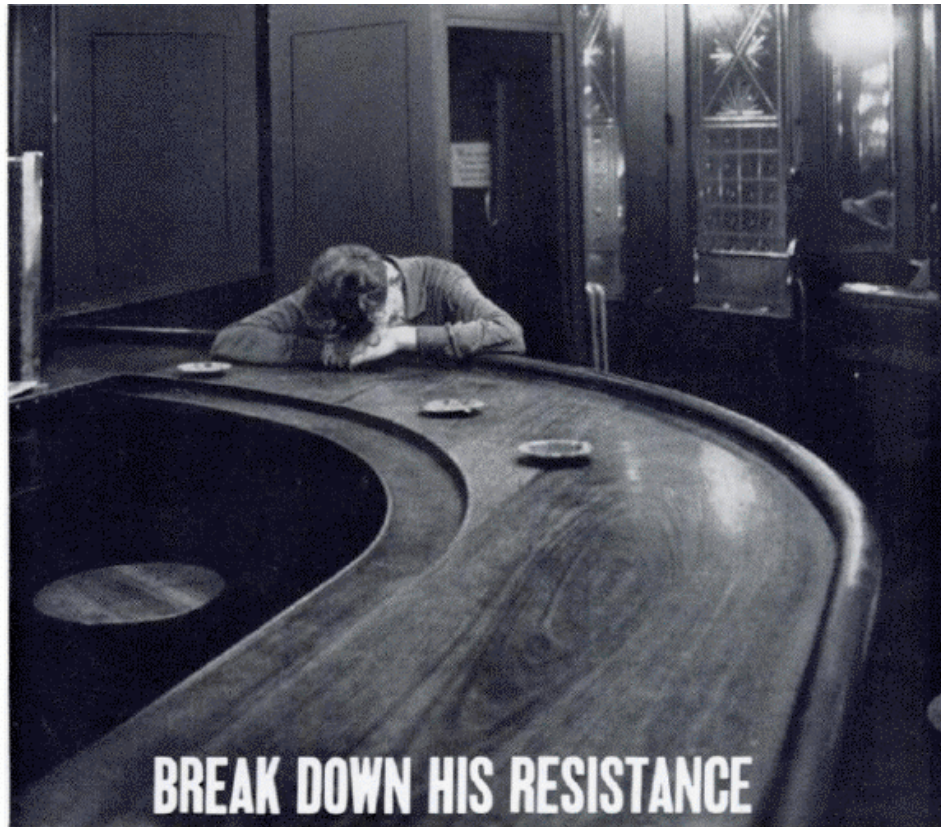
ALSO AVAILABLE: Oral Ritalin in tablets
of 5, 10 and 20 mg.

^{*}Waggoner, R. W.: Personal communication.

C I B A
SUMMIT, N. J.

2/2516MK

Figure 3.2 – 1958 advertisement for Ritalin in psychotherapeutic interviews, "Help psychiatric patients talk." (Source: March 1958 issue of *Hospital and Community Psychiatry*. The author thanks Ben Hansen for this image.)



TO PSYCHOTHERAPY

Denial and defensive attitudes block contact with the alcoholic patient. Parenteral Ritalin renders him more accessible to psychotherapy by promoting verbalization of repressed and subconscious material.

In a recent study of 9 alcoholic patients,¹ Ritalin produced "a sustained decrease of psychic resistance." After the Ritalin interviews "all patients became significantly more involved in therapy.... Two of the patients...for whom intensive individual therapy was available, moved rapidly toward new insights with remarkable emotional participation."

DOSAGE: 10 to 20 mg. intramuscularly, 10 to 15 minutes before interview.

SUPPLIED: Ritalin Parenteral Solution: Multiple-dose Vials, 10 ml., each vial containing 100 mg. Ritalin hydrochloride and 100 mg. lactose in lyophilized form, accompanied by a 10-ml. vial of sterile solvent.

ALSO AVAILABLE: Ritalin Tablets, 5 (yellow), 10 (blue) and 20 mg. (peach-colored).

Reference: 1. Hartert, D., and Browne-Mayers, A. N.: J. A. M. A. 166:1982 (April 19) 1958.

RITALIN® hydrochloride (methylphenidate hydrochloride CIBA)

C I B A
SUMMIT, N. J.

parenteral Ritalin®

Figure 3.3 – 1959 advertisement for Ritalin in the use of psychotherapy for alcoholism, "Break down his resistance to psychotherapy." (Source: February 1959 issue of *Mental Hospitals*. The author thanks Ben Hansen for this image.)

At the same time, it is virtually impossible to gauge just how many psychiatrists relied upon drug-mediated psychotherapy. Psychiatrist Gerald Sarwer-Foner, who had published studies on its application with his colleagues at McGill University, reminisced on its use in the mid- to late 1950s. As an enthusiast for the technique at the time, he conceded that it “was a minority approach....But the people who knew it respected it.”⁷⁹ Given the intense influence that psychoanalysis had in American psychiatry during that decade, he noted that drug-mediated psychotherapy “was and wasn’t” a fairly standard approach. Sarwer-Foner observed that there was always some degree of accommodation between psychoanalysis and psychopharmacology:

Now, interestingly enough, when I was an analytic student, the New York Psychoanalytic Institute, the holy of holies, invited me down to lecture to their committee on psychotic emergencies, and they knew I was a student in analysis....And I came to talk about what these drugs would do, how they could be used, and how analysts could analyze...[and do] transference using these drugs, if they were very gentle about it and took their time.⁸⁰

Sarwer-Foner’s experiences remind us of the symbiotic relationship, short-lived as it may have been, between these different approaches to psychiatric practice.

Yet it is impossible to ignore the inroads psychopharmacology was making on all facets of psychiatry. While psychiatrists trained in Freudian, Jungian, or Adlerian techniques of psychoanalysis may have been content to administer amphetamines and other drugs in ways congruous to their practice, pharmacologic psychotherapy was only transitory at best. Developments in psychopharmacology during the 1950s and 1960s were beginning to alter understandings of mental illness, so that by the 1970s, outpatient

⁷⁹ Gerald Sarwer-Foner, interview by Joel T. Braslow, December 9, 2003, Oral Histories Collection, International Neuropsychopharmacology Archives, American College of Neuropsychopharmacology, Vanderbilt University, Nashville, TN.

⁸⁰ Ibid.

psychiatry would barely resemble its psychoanalytic counterpart a couple of decades earlier. Illustrative of this crossroads between a psychoanalytic past and a pharmacologically oriented future was a conference on “Psychodynamic, Psychoanalytic, and Sociologic Aspects of the Neuroleptic Drugs” hosted by the Department of Psychiatry at McGill University in 1960 and chaired by Sarwer-Foner and psychiatrist Ewen Cameron. Several sessions at the conference were dedicated to a discussion of what was increasingly being heralded as one of the most important revolutions in clinical practice: how psychopharmacology had transformed private practice.⁸¹

Sarwer-Foner also noted how pharmacological approaches came to overshadow psychodynamic ones. “My approach was that we had to look at each patient individually. We had to give enough time to study them individually. We had to give them drugs when drugs were needed. And they always got psychotherapy around what their problem was.” The rise of psychopharmacology and the concomitant decline of psychotherapy in outpatient psychiatry owed more to a “narrowing of a vision” than the superiority of one technique over the other. “Now...psychopharmacology, [based on the] *DSM III* and *DSM IV*, is set up to guarantee a consensus about diagnosis,” he contended. For psychiatrists such as Sarwer-Foner, who were rooted in psychoanalysis but also receptive to the developments of psychopharmacology, the specificity of the individual patient remained paramount. With the increasing use of drugs such as Miltown to treat outpatient psychiatric patients and the concomitant reconceptualization of neuroses as anxiety disorders, a more generalized form of outpatient psychiatry came to the fore. Put another way, one might argue that the major threat to psychodynamic approaches had less to do

⁸¹ See Gerald J. Sarwer-Foner, ed. *The Dynamics of Psychiatric Drug Therapy: A Conference on Psychodynamic, Psychoanalytic, and Sociologic Aspects of the Neuroleptic Drugs in Psychiatry* (Springfield, IL: Thomas, 1960).

with a pharmacological orientation toward treatment and more to do with a biological orientation toward diagnosis. Psychoanalysis could make a place for the former in its practice, but it could not surmount the challenge posed by the latter.

Psychostimulants and LSD in Psychotherapy

In 1963, psychiatrist Thomas Ling and psychologist John Buckman exalted the role of two recent developments in drugs for treating their patients: “There is reason to believe that psychotherapy, combined with regular sessions under LSD and Ritalin can greatly shorten psychological treatment and produce the most penetrating experiences with great insight.” Anticipating a bright future for these drugs in the treatment of neuroses, they concluded, “Patients mature and become really at peace with themselves.”⁸² Little did Ling and Buckman realize that by the end of the decade, the backlash against LSD would be so severe that the drug would be outlawed in most countries and that Ritalin’s uses in treating neurosis would largely be abandoned for the treatment of hyperkinetic children. Nor did they foresee that the psychoanalytic paradigm within which they were working would give way to a different model that would reconceptualize the causes and treatments for psychiatric disorders.

Thus far, this chapter has primarily considered the use of psychostimulant drugs such as methamphetamine and methylphenidate in outpatient psychiatry. At the same time, however, private practice psychiatrists began to explore the potential of the hallucinogen lysergic acid (LSD) for psychotherapy. While the use of LSD for psychoanalysis gained some adherents among psychiatrists throughout the 1960s, its use would not continue past the decade. The imposition of strict controls by federal and state

⁸² Thomas Ling and John Buckman, *Lysergic Acid (LSD 25) & Ritalin in the Treatment of Neurosis* (London: Lambarde Press, 1963), 16.

authorities, beginning in the mid-1960s, suggests one primary reason why the use of psychoactive drugs in outpatient psychiatry declined dramatically by the late 1960s.⁸³

In charting the uses of LSD in their practices, receptive psychiatrists generally reported how the drug could serve as an “aid to the uncovering and acceptance of unconscious material and to determine whether the therapeutic process could be accelerated.”⁸⁴ These psychiatrists appreciated LSD for its potential as an adjuvant for analytical therapy and for its peculiar properties as an abreactive drug.⁸⁵ These views were articulated in a curious volume published in 1963, *Lysergic Acid (LSD 25) & Ritalin in the Treatment of Neurosis*. Its authors, psychiatrist Thomas M. Ling and psychologist John Buckman, both of the Marlborough Day Hospital in London, optimistically proclaimed that LSD and methylphenidate could be harnessed as effective tools for the treatment of patients’ various psychiatric conditions, ranging from “anxiety” and “writer’s block” to “frigidity” and “sexual perversion.” Even bodily conditions with ostensibly organic rather than psychosocial origins might benefit from the therapies espoused by Ling and Buckman. In one instance, they presented the case of a female patient suffering from migraines. Under the care of her psychiatrist and with the use of

⁸³ Histories of LSD of varying scholarly merit abound. Erika Dyck’s *Psychedelic Psychiatry: LSD from Clinic to Campus* (Baltimore: Johns Hopkins University Press, 2008) is perhaps the best study of the clinical applications of the drug. In addition, see Erika Dyck, “Flashback: Psychiatric Experimentation with LSD in Historical Perspective,” *Canadian Journal of Psychiatry* 50, no. 7 (June 2005): 381-387; and Dyck, “Hitting Highs at Rock Bottom.” Several good popular histories include Jay Stevens, *Storming Heaven: LSD and the American Dream* (New York: Grove Press, 1987); Martin A. Lee and Bruce Shlain, *Acid Dreams: The Complete Social History of LSD: The CIA, The Sixties, and Beyond*, rev. ed. (New York: Grove Press, 1992); and John D. Marks, *The Search for the “Manchurian Candidate”: The CIA and Mind Control* (1979; reprint, New York: W. W. Norton & Company, 1991).

⁸⁴ Sidney Cohen and Betty Grover Eisner, “Use of Lysergic Diethylamide in a Psychotherapeutic Setting,” *A.M.A. Archives of Neurology and Psychiatry* 81, no. 5 (May 1959): 98. See also, Ian Martin, “‘Ritalin’ and ‘Sodium Amytal,’” 1264.

⁸⁵ A. M. Spencer, “Modifications in the Technique of LSD Therapy,” *Comprehensive Psychiatry* 30 (August 1964): 233.

LSD and Ritalin, the patient relived a traumatic experience in which her father sexually abused her at the age of five. Her husband had been in a business partnership with his father-in-law, and he became acutely disturbed at this revelation. For two weeks the husband seriously contemplated severing relations with his wife's father and leaving the country altogether, and at one point, he became more disturbed than his wife and needed psychiatric help. Fortunately, under the pharmacologic psychotherapy, both husband and wife made a "satisfactory adjustment." The wife's migraine headaches completely subsided and "all [was] at peace in the relationship between the generations."⁸⁶ While the authors were careful to note that this form of treatment, psychotherapy utilizing LSD and Ritalin as adjuncts, had great potential for the "right patient in the right surroundings" and that proper selection of cases and methods were essential, such selectivity tended to be lost in the great sweep of Ling and Buckman's claims.

In the treatment of these neuroses, the authors likened their armamentarium of psychostimulant and hallucinogenic drugs to the scalpel and techniques employed by a surgeon operating on the abdomen. This analogy was quite deliberate. Just as the surgeon worked on an unconscious patient in order to repair a problem with the gastrointestinal tract, so too, did Ling and Buckman surmise that "LSD provides the means of opening the unconscious and exposing primarily to the patient in cooperation with the psychiatrist."⁸⁷ Not only did such an analogy extend to the nature of the environment in which both surgeon and the psychiatrist employing such drugs worked, but it also considered the expertise of both making diagnoses, selecting appropriate patients and

⁸⁶ Ling and Buckman, *Lysergic Acid & Ritalin*, 3.

⁸⁷ *Ibid.*, 2.

cases, and making informed decisions in the selection of an appropriate therapeutic course.

Ling and Buckman's work helps further historians' understandings of how analytically oriented psychiatrists conceptualized the use of drugs in their practices because it suggests an important question: What motivated psychiatrists to introduce drugs into outpatient psychotherapy during the postwar era? Why use drugs that could impede or, worse, endanger the doctor-patient relationship as much as facilitate it? As we have seen, research such as that done by Sward and Rothman during the 1950s strongly suggests that adherence to a particular form of psychotherapy—be it Freudian, Jungian, Adlerian, or something else—does not provide a definitive answer. Perhaps a better, if more provocative, answer is suggested by Ling and Buckman: The *patient* was responsible for the decision, at least in the mind of the psychiatrist, as much as any individual psychiatrist's clinical experience, expertise, or philosophy. The fact that the authors thanked their former patients for taking part in the cases and interviews that “will be helpful to the progress of scientific knowledge and the alleviation of other patients' suffering” provides one such clue. Despite the enthusiasm of the authors for LSD and Ritalin in 1963, the former's heyday would be short-lived. Increasing regulatory controls and the criminalization of LSD in the latter half of the 1960s would effectively curtail its potential for use in psychotherapy. But a greater threat was posed by the rise of direct prescribing of stimulants and other drugs for depression.

“Environmental Depression” and the Decline of Drug-Mediated Psychotherapy

As the 1950s gave way to the 1960s, a number of psychiatric researchers who had previously considered the use of psychostimulant drugs as adjuncts in psychoanalysis and

psychotherapy began to shift their attention to the role the drugs might play in alleviating depression. Among these studies were those of Kerenyi, Koranyi, and Sarwer-Foner in Montreal. In 1959, they had published on the potential of methylphenidate in psychiatric interviewing. The next year, their attention shifted to the applications of the same drug for the treatment of depression, especially that thought to have an organic origin. This 1960 study further suggests how private practice psychiatry found itself at a crossroads between psychoanalysis and psychopharmacology. Consider this description of methylphenidate posited by Kerenyi, Koranyi, and Sarwer-Foner:


Methylphenidate is a stimulating drug. It was most useful with those patients who had reached the following clinical level in their depression. They had formed a positive transference and therefore considered the physician as a helpful, beneficial person, and the showed regression to a level of increased sleep, fatigue, lack of “pep,” some apathy, and complained of a dearth of energy. Within this context these patients were now beginning to seek (“good”) object relationships. Methylphenidate, *given at this point*, enabled the patients who were ready to form new object relationships, as demonstrated in the transference, to perceive an increase of necessary “pep.” This offered an impetus to overcome their regressions. Such patients felt the physiological effects of the drug as direct evidence of the physician’s power to help them have the renewed energy to live again and to form new object relationships.⁸⁸

This depiction of methylphenidate’s effects on the private practice patients studied by the three psychiatrists strongly suggests a mingling of the drug’s effects in both psychoanalytic and physiological terms. While the authors were capable of noting the ability of the drug to aid in transference and the development of healthy object relationships as espoused by Freudian tradition, they were unable to overlook the drug’s effects in providing patients with increased “pep” and an alleviation of depressive symptoms. Even more telling was Kerenyi, Koranyi, and Sarwer-Foner’s

⁸⁸ Kerenyi, Koranyi, and Sarwer-Foner, “Depressive States and Drugs,” 1251. See also, A. B. Kerenyi, E. K. Koranyi, and G. J. Sarwer-Foner, “Depressive States and Drugs—III. Use of Methylphenidate (Ritalin) in Open Psychiatric Settings and In Office Practice,” *Canadian Medical Association Journal* 83, no. 24 (December 10, 1960): 1249-1254.

acknowledgement that patients were capable of perceiving and appreciating the physiological effects of methylphenidate. This disclosure by the three McGill researchers implies that patients could appreciate the psychiatrist as a dispenser of effective stimulant drugs just as much, if not more so, for their psychotherapeutic and psychoanalytic expertise.

The antidepressant properties of the psychostimulant drugs were not lost on their manufacturers. By 1957, as psychiatrists were reporting on the use of stimulants in psychoanalysis, Ciba began to promote Ritalin as an antidepressant for outpatient psychiatry (see Figure 3.4). Further revealing of the firm's attempts to capitalize on as many markets as possible, Ciba advertised Ritalin simultaneously as an antidepressant for institutional settings, antidepressant for outpatient settings, and adjunct for psychoanalysis.



Chemically new and clinically different

Ritalin

mild stimulant . . . antidepressant

Ritalin is a mild central nervous system stimulant and antidepressant of an entirely new type, unrelated to either caffeine or the amphetamines. Ritalin has no significant effect on either blood pressure or pulse rate and does not produce nervousness, hyperexcitation or depress the appetite.

Ritalin is indicated in depression, apathy, discouragement, anxiety, chronic fatigue, weakness, post-partum depression, depression after infectious illness, convalescence and geriatrics.

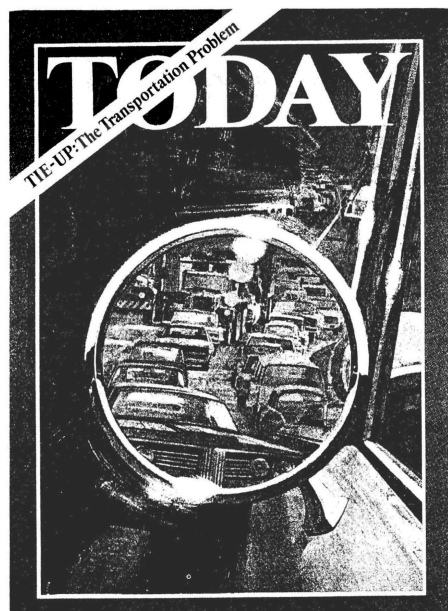
CIBA
MONTREAL 005

Insert: Several tablets containing 20 mg. Ritalin; bottles of 100 and 500.

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Figure 3.4 – 1957 Ritalin advertisement, “mild stimulant...antidepressant.” (Source: 1957 issue of the *Canadian Medical Directory*. The author thanks Christopher Lyons, reference librarian at McGill University, for this image.)

In another advertising campaign about a decade later, Ciba promoted Ritalin for a condition its advertisements termed “environmental” depression. Mimicking the covers of *Time*, *Newsweek*, and other news magazines, the advertisements associated the disorder with major problems of urban American life during the late 1960s and early 1970s (See Figure 3.5). Ads from this particular promotional campaign referenced problems of traffic jams and transportation headaches, power outages and brownouts, the “new social problem” of noise, ecological pollution, social unrest, and “situations out of control” as worthwhile reasons for physicians to prescribe Ritalin to their patients.



“Environmental” Depression

often expressed as vague aches and pains...complaints of tiredness

Who hasn't been bogged down in traffic jams with honking horns, exhaust fumes, and experienced that "I give up" feeling of resignation. For most people, it is an accepted part of everyday living. But for others—already buffeted by a seemingly endless stream of bad news, crises and confrontations—reaction may be inappropriate. For them, the stresses of today's world may cause symptoms of mild depression to occur more frequently.

How do they, as patients, present the problem?

In your office, mildly depressed patients may not complain specifically of being depressed. More likely they will complain of tiredness, early morning awakening, poor appetite, lethargy, or vague aches and pains which have no detectable organic basis. Some patients with mild depression may not require therapy beyond your counsel or reassurance. But if you decide supportive

drug therapy is required for patients with mild depression, Ritalin may prove to be a valuable therapeutic adjunct. Ritalin will not help all depressed patients faced with environmental problems, and it certainly won't change those problems or an individual's response to them. But Ritalin can improve outlook... help get your patients moving again. And Ritalin...

acts quickly This effective stimulant usually begins to act with the very first dose... your patient need not wait days or even weeks to begin feeling better. Furthermore, the drug...

offers safety Ritalin is distinguished by its record of safety as a central nervous system stimulant. However, side effects may occur (see Adverse Reactions section of brief prescribing information on the following page). Ritalin also...

proves valuable for the elderly This time-tested agent is usually well tolerated, even by older patients.

Ritalin®
(methylphenidate)
helps relieve the symptoms
of mild depression

For brief prescribing information, please see following page.

C I B A

Figure 3.5 – 1971 Ritalin advertisement for “environmental depression.” (Source: *Archives of General Psychiatry*, reprinted in Nelson Hearings, pt. 2, 850-851)

While they give no indication of how frequently Ritalin might have been prescribed by doctors to their patients for depression, these ads confirm that Ciba believed that their drug might be prescribed for such symptoms, which taken together, represented a previously unappreciated disorder. A closer examination of the advertisements also reveals the ways in which Ritalin's properties as a stimulant could be conflated with its indication as an antidepressant. Environmental depression apparently could present with a number of different symptoms, but in all three advertisements, "complaints of tiredness" was a consistent theme, one that suggested the appropriateness of a stimulant such as Ritalin.⁸⁹

Ciba's advertising campaigns did not escape the attention of health care officials and governmental officials. In 1971, Senator Gaylord Nelson (D-WI) referred to the Ritalin ads explicitly as an example of how everyday problems were being recast as medical indications in the firm's advertisements:

The uses recommended in the Environmental Depression and similar ads are clearly not indicated. Those are just normal things that anybody goes through. Now, it is done very cleverly, and if you read the material on the other side of the page, showing the indications, contraindications, and the side-effects and so forth, there will always be a line which can be interpreted to mean, do not use it unless medically necessary, but that is not what the commotion is all about. I cannot see that the purposes that in the ad are medical purposes.⁹⁰

Dr. Charles Edwards, the Commissioner of Drugs for the Public Health Service, identified Ciba's correlation between Ritalin for environmental depression and endemic

⁸⁹ It is worth noting, perhaps, that one advertisement for Ritalin in 1966 noted the drug was "increasingly prescribed in everyday medical practice," suggesting, even if anecdotally, that Ritalin was being further mainstreamed. See, *CIBA Medicare Bulletin* 4 (August 1966), Kremers Reference Files, C38 (a) I – Ciba Pharmaceutical Company, 1966, American Institute for the History of Pharmacy, University of Wisconsin, Madison, WI.

⁹⁰ Statement of David Lewis, Senate Subcommittee on Monopoly of the Select Committee on Small Business, *Advertising of Proprietary Medicines*, 92nd Cong., 1st sess., pt. 2, 1971, 470. Hereafter cited as "Nelson Hearings."

transportation problems: “The inference to be drawn by the viewer is...if you are caught in a traffic jam just take a pill.”⁹¹ Concurring with Dr. Edwards’s statement, Senator Thomas McIntyre (D-NH) suggested that in advertisements such as Ciba’s, “the damage has already been done. The idea of prescribing these drugs for everyday frustrations has been implanted in the mind of the physician.”⁹²

As with the marketing of drugs for geriatric psychiatry during the late 1950s to mid-1960s, the mainstreaming of psychiatric drugs for depression was not limited to Ritalin. Nelson’s concerns also applied to the anxiolytic Librium, a benzodiazepine whose effects on the central nervous system are, in many ways, the opposite of Ritalin’s. Advertisements for Librium around the same time also indicated its use in managing “environmental depression,” including one involving a female college student trying to cope with the stresses placed upon her.⁹³

As historians Jeremy Greene and Scott Podolsky have demonstrated, pharmaceutical promotion was so pervasive in its reach that it influenced postwar medical education through the dissemination of industry sources to tout the latest therapeutic advances.⁹⁴ In some instances, medical students demonstrated grave concerns about industry influence. During a 1975 symposium convened by students at McGill University Medical School to tackle drug related issues, Dr. Norman Eade criticized Ciba’s promotion of Ritalin as a prime example of the misuse of advertising for improper

⁹¹ Statement of Charles C. Edwards, Nelson Hearings, pt. 2, 427.

⁹² Ibid., 448.

⁹³ Statement of David Lewis, Nelson Hearings, pt. 2, 470.

⁹⁴ Jeremy A. Greene and Scott H. Podolsky, “Keeping Modern in Medicine: Pharmaceutical Promotion and Physician Education in Postwar America,” *Bulletin of the History of Medicine* 83, no. 2 (Summer 2009): 331-377.

prescriptions. According to Eade, “the drug industry utilizes gross distortions of medical terminology to promotion its brand-name products: having developed a drug, it ‘discovers’ diseases for which it can be used.”⁹⁵

Just as germane is the question of which physicians were undertaking the prescription of Ritalin for these symptoms. Between the time of its 1955 introduction and its indication for environmental depression in the late 1960s, Ritalin seems to have become repositioned in two decisive ways: First, advertisements for the drug completely discarded references to psychoanalysis in favor of direct prescribing for symptoms. Second, and related to the first point, the drug appears to have prescribed by more non-psychiatrists. During the 1971 Nelson hearings on mood drugs, Dr. David Lewis of the Harvard Medical School explicitly suggested that Ritalin was being prescribed less by psychiatrists and more by general practitioners. The idea that Ritalin was being increasingly prescribed by general practitioners is also indicated in a 1970 editorial, when a concerned psychiatrist challenged Ciba’s claims regarding Ritalin. Arguing that many doctors were being misled by the advertisements for environmental depression, psychiatrist Morton Rapp accused Ciba of simplifying a complex diagnosis such as depression, encouraging general clinicians to prescribe a drug for a disorder they barely understood.⁹⁶ While it is unclear what the prescribing rates for Ritalin were by specialty during these years, increasing concerns by these medical officials suggest that by the end of the 1960s, Ritalin no longer fell under the exclusive purview of psychiatrists. While

⁹⁵ Statement of Dr. Norman Eade, Summary Publication, Drug Symposium: “Drug Information for the Health Care Team,” McGill University, May 30-31, 1975, Osler Library Archival Collection, Box 6: Accession 533, 6-7, McGill University, Montreal, QC.

⁹⁶ Morton Rapp, “Let the Physician Beware,” *Canadian Medical Association Journal* 102, no. 11 (May 30, 1970): 1188.

general practitioners and clinicians in other specialties may have not been prescribing the drug as frequently as these alarmed psychiatrists suggest, it is clear that the drug was becoming increasingly “mainstreamed” as it entered into the homes and everyday lives of non-hospitalized sufferers of depression thanks to prescriptions by increasing numbers of physicians who were not psychiatrists.

Also implicit in the observations of Morton Rapp, David Lewis, and others was the fact that these drugs were now taken by patients who had never seen psychiatrists to begin with. The mainstreaming of Ritalin reflected more than the weaning of patients from psychiatrists’ couches to a “pill-popping” world. The transition also meant that therapists now had to confront the reality of Americans taking medications for psychiatric conditions and who could not be bothered to consult a psychiatrist in the first place, whether out of concerns for the cost of psychoanalysis, the convenience offered by pills, or a desire not to submit themselves as psychiatric subjects. Utilizing Ritalin and other stimulants to expedite psychoanalysis was one thing, but the shift toward direct prescribing by non-psychiatrists, all within the span of a decade, threatened the future of outpatient psychiatry by the end of the 1960s. While psychiatry did not disappear, of course, the public’s move away from psychoanalysis toward pharmacotherapy meant that psychiatry would have to follow along if it wished to remain relevant in the market-driven world of neuroses.

Women in particular were prescribed Ritalin far more than men, and they were obvious targets for Ciba’s advertising campaigns during the late 1960s and early 1970s.

In 1967, Ciba hired comedienne Alice Ghostley to promote Ritalin (See Figure 3.6).⁹⁷

Ciba's decision was influenced by a previous campaign with comedian Louis Nye:

The decision to add a touch of humor to the *Ritalin* advertising campaign was made last year when Mr. Nye appeared in a variety of amusing poses. All were designed to illustrate the difference that *Ritalin* therapy can make in a patient's mood. So successful was the program that the pharmaceutical advertising staff decided to give Mr. Nye a partner in the '67 campaign.

Ciba's choice of a female comic was well calculated: "Research reveals that the largest number of Ritalin patients are women. It was decided, therefore, that the new character would be a woman with whom these patients could identify."⁹⁸

⁹⁷ Ghostley is best remembered for her roles in the television shows *Bewitched* (as Esmeralda), *Mayberry R.F.D.* (as Cousin Alice), and *Designing Women* (as Bernice Clifton).

⁹⁸ "Comedienne Sparks Campaign," *CIBA News* 1, No. 5 (October 1967): 7, Kremers Reference Files, C38 (a) I – Ciba Drug Company, 1967, American Institute for the History of Pharmacy, University of Wisconsin, Madison, WI. The campaign in question appears to have revolved around the advertisement of Ritalin for its ability to "spark energy" in patients. In a 1969 ad, Ghostley appears dressed in colonial garb about to light a cannon.



Figure 3.6 – “Let’s go team! Spark Ritalin sales!”: 1967 Ciba promotional photo of comedienne Alice Ghostley. (Source: *CIBA News*, Archives of the American Institute for the History of Pharmacy)

Ciba ads that targeted women suggest another way in which Ritalin was promoted for more generalized conditions. In one advertisement dating from the mid-1960s, a supposedly tired, mildly depressed housewife contemplates an unbalanced pile of dirty dishes poised to tumble over at any minute. In the adjacent panel, the same woman, now presumably taking a course of Ritalin, seems attentive and assured as she neatly stacks the same pile of washed dishes (see Figure 3.7). Another advertisement for Ritalin depicts a lethargic, disinterested housewife sitting on top of a vacuum cleaner (see Figure 3.8). The answer for her “chronic fatigue,” Ritalin, is identified in the adjacent panel.

if chronic fatigue and mild depression make simple jobs look this big...

Ritalin®
(methylphenidate CIBA)
relieves chronic fatigue that depresses and mild depression that fatigues

Ritalin (methylphenidate) gently overcomes mild depression and the fatigue so often associated with it. The drug brightens mood and improves performance, helps restore alertness, enthusiasm, and drive. Patients often report that fatigue and worry seem to vanish; they are able to go all day without getting tired.

Widely cited for its outstanding record of safety, Ritalin (methylphenidate) is virtually free of the toxic effects of the more potent antidepressants. Its action is usually uncomplicated by excessive stimulation or sudden letdown. Ritalin (methylphenidate) is exceptionally well tolerated even by the elderly.

Dosage: Give orally in divided doses 2 or 3 times daily, preferably 30 to 45 minutes before meals. Average dosage is 20 to 60 mg. daily. **Contraindications:** Marked anxiety, tension, agitation. **Cautions:** Should not be used to increase mental or physical capacities beyond normal limits. Use cautiously with epinephrine, levarteterol, or angiotensin amide. **Side Effects:** Nervousness, insomnia, anorexia, nausea, dizziness, palpitation, headache, drowsiness. **Supplied:** Ritalin hydrochloride (methylphenidate hydrochloride) Tablets, 20 mg. (pale orange), 10 mg. (pale green), and 5 mg. (pale yellow). CIBA Pharmaceutical Company, Summit, N.J.

C I B A

Figure 3.7 – 1965 Ritalin ad for “tired housewife syndrome.” (Source: March 1965 issue of *Archives of General Psychiatry*, reprinted in Nelson Hearings, pt. 2, 864-865)

Ritalin®
(methylphenidate)
helps relieve
chronic fatigue
and mild depression

If your patient complains that she's always tired, her problem may be chronic fatigue or mild depression. In such cases, Ritalin can help your patient feel better... approach her daily activities with renewed enthusiasm... get back in the middle of things. And Ritalin...

acts in minutes This effective stimulant usually brings relief with the very first dose... your patient need not wait days or even weeks to begin feeling better. Furthermore, the drug...

offers safety In treating chronic fatigue and mild depression, Ritalin rarely affects blood pressure or heart rate; it has not been associated with muscle tremors or urinary retention. And toxic or adverse effects on blood, urine, liver or kidney function are not to be anticipated. However, side effects may occur (see Adverse Reactions section of brief prescribing information below). Ritalin also...

proves especially valuable for the elderly This time-tested agent is usually well tolerated, even by older patients. It rarely affects appetite or causes rebound depression.

ORAL RITALIN
CONTRAINDICATIONS: Marked anxiety, tension, agitation. Contraindicated in patients known to be hypersensitive to the drug, or patients with glaucoma, and in patients with angina pectoris or coronary artery disease. **Warnings:** Should not be used for severe depression (symptoms of antidepressant toxicity in the hospital under careful supervision). Should not be used to increase mental or physical capacities beyond normal limits. Discontinue use if severe nervousness, insomnia, or anorexia occurs. **Use as Prescribed:** Take as directed, usually 2 or 3 times daily, 30 to 45 minutes before meals. Do not take more than 60 mg. daily. **PRECAUTIONS:** Patients with chronic or acute psychiatric disorders should be observed closely for possible behavior and psychic disturbances.

ADVERSE REACTIONS: The most common side effects are nervousness and insomnia, palpitation, tremor, dizziness, palpitation, headache, drowsiness, dry mouth, constipation, blood pressure and pulse changes, tachycardia, and drowsiness. In the treatment of depression, patients should be observed for possible behavior and psychic disturbances.

HOW SUPPLIED: Ritalin® hydrochloride (methylphenidate hydrochloride) Tablets, 20 mg. (pale orange), 10 mg. (pale green), and 5 mg. (pale yellow). CIBA Pharmaceutical Company, Summit, N.J.

C I B A

Figure 3.8 – 1970 Ritalin ad for “tired housewife syndrome.” (Source: February 9, 1970, issue of *Modern Medicine*, reprinted in Nelson Hearings, pt. 2, 866-867)

In both advertisements, Ritalin is endowed with the capacity to bestow on these housewives the vigor, energy, and disposition they needed to complete their domestic duties. While the drug is touted as being able to help women overcome their chronic fatigue and mild depression, the juxtaposition of the photographs in the first promotional makes very clear the other effects of the drug—the maintenance of a clean, tidy home through the medication of housewives. In fact, two things about Ciba’s advertisements are striking. First, they seem to be addressed to housewives—“If *your* diagnosis is chronic fatigue”—but the advertisements appear in psychiatric journals where clinicians are the intended audience.⁹⁹ One may infer that the advertisement sent a message to these professionals that the housewife’s problem was also the physician’s problem. Second, the advertisements reflected the heterogeneous, even paradoxical, nature of psychiatry during these years. Just as Ritalin could play a role in reifying notions of proper gender roles through psychoanalysis, advertisements such as these relayed a message that the drug could do the same directly, without a “talking cure.”¹⁰⁰

The gendered implications of Ritalin ads did not escape policymakers and health officials in the late 1960s and early 1970s. In 1971, Dr. Richard Feinbloom illuminated the logic driving advertisements such as Ciba’s:

We are easily lulled into accepting the status quo. It takes the protest of a group which considers itself exploited by psychotropics to jar us to awareness. Such a critique is being mounted by what has come to be referred to as the movement of women’s liberation. An increasing number of women are seriously questioning their assigned role as housekeeper, childbearer, and cook. There is a well known clinical syndrome associated with the life style best described as the “tired mother syndrome” which when presented to the doctor almost reflexively stimulates a

⁹⁹ The emphasis is mine.

¹⁰⁰ As was the case with its “environmental” depression advertisements, Ritalin was not the only drug being advertised to treat the “tired housewife” syndrome. Serax (oxazepam), a benzodiazepine produced by Wyeth, depicts similar housewives in similar situations in their advertisements.

prescription for psychotropics. Concerned women view this kind of response as a subconscious maneuver to keep women in their place.¹⁰¹

During the same hearings, Dr. Robert Seidenberg noted how advertisements such as these incorporated the rhetoric of the women's liberation movement by portraying housewives as "oppressed, unfulfilled, and imprisoned."¹⁰² Seidenberg lashed out against Ciba: "The solution for her is neither liberation, psychological help, [nor] social action but, predictably, psychoactive drugs."¹⁰³ Whether the feminist rhetoric employed in Ciba's advertisements for Ritalin was deliberate or unintentional, what is certain was the hypocrisy behind prescribing a drug to provide women relief from their fatigue and depression, only to empower them to finish their household chores. Ritalin prolonged rather than cured the burdens of domesticity.

Conclusion

Historians have yet to comprehend the nature of the transition from psychoanalysis to psychopharmacology as the dominant paradigm for outpatient psychiatry. This chapter has examined an important, but overlooked aspect of this transition: how analytically oriented psychiatrists attempted to harness pharmaceuticals. The introduction of the minor tranquilizers (beginning with Miltown in 1955 and culminating with Valium in 1963) threatened to topple, or at least challenge, the dominance of psychotherapy. Now, patients could find direct relief for their anxiety symptoms through the aid of drugs. No longer were 50-minute hours of talk therapy necessary. But the historical trajectory of psychostimulant drugs was rather different.

¹⁰¹ Statement of Richard Feinbloom, Nelson Hearings, pt. 3, 758.

¹⁰² Statement of Robert Seidenberg, Nelson Hearings, pt. 3, 538.

¹⁰³ Ibid.

Rather than posing a threat to old order, they provided a means to preserve it. Drugs such as Dexedrine, Benzedrine, and Ritalin were congruous with psychotherapeutic practices because they induced in patients a set of effects that enhanced communication between therapist and patient, and provided for a pharmacologically induced abreaction that was often sought by psychoanalysts.

However, the drugs that promised to improve psychoanalysis in the late 1950s would hasten its demise by the 1960s. Pharmaceutical firms such as Ciba began to capitalize on the potential of stimulants as antidepressants that could be prescribed directly to patients without any pretense of a talking cure, and perhaps without any need for seeing a psychiatrist. As I explore in subsequent chapters, the mainstreaming of Ritalin and other stimulants would coincide with the speed culture of the 1960s.

Chapter 4

“Brother’s Little Helper”: Hyperkinesis and the Rise of Pediatric Stimulant Therapy

The rise of attention-deficit/hyperactivity disorder (ADHD) in children and adolescents is a phenomenon associated with the 1990s. Indeed, the diagnostic category of attention deficit disorder (ADD) did not exist until its emergence in the third edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-III)*, published in 1980.¹ During the 1990s, ADHD and Ritalin converged in the collective consciousness of the American public, and contemporary debates surrounding the validity of ADHD as an ontologically distinct disorder requiring pharmacological intervention have been coupled with the drug of choice implicated in its treatment. Two of the most widely read books on the subject during this decade, psychiatrist Laurence Diller’s *Running on Ritalin* and psychologist Richard DeGrandpre’s *Ritalin Nation* provide good cases in point. In questioning Ritalin as the best choice for the management of ADHD, as Diller asks, or raising doubts about the legitimacy of the disorder as a genuine condition, as DeGrandpre suggests, Ritalin and ADHD have become further entangled.²

¹ A brief note about the difference between ADD and ADHD might be helpful. In 1987, the DSM-III-R revised attention deficit disorder, a diagnostic category most commonly characterized by inattentiveness, to attention deficit hyperactive disorder, to acknowledge hyperactive symptoms also present in the diagnosis. The principal characteristics of ADHD in children are inattention, hyperactivity, and impulsivity. According to the most recent version of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV-TR)*, there exist three patterns of behavior that indicate ADHD: the predominately hyperactive-impulsive type (that does not show significant inattention); the predominately inattentive type (that does not show significant hyperactive-impulsive behavior); and the combined type (that displays both inattentive and hyperactive-impulsive symptoms). Of these three subtypes, the predominately inattentive type is sometimes called ADD, an outdated term for this entire disorder. While ADD currently refers to a particular pattern of ADHD, both ADD and ADHD are still used interchangeably in the popular press to describe the entire condition.

² Lawrence H. Diller, *Running on Ritalin: A Physician Reflects on Children, Society, and Performance in a Pill* (New York: Bantam Books, 1998); and Richard J. DeGrandpre, *Ritalin Nation*:

Despite contemporary concerns over ADHD, the disorder's antecedents stretch back over a century. Scholars observing the rise of this phenomenon have begun to consider its historical dimensions. While recent scholarship has furthered our appreciation for how the disorder was conceptualized as part of the broad shift from psychodynamic to biological psychiatry, it has tended to ignore how clinicians themselves understood its pharmacological management. In this chapter, I examine the role of psychiatrists in advancing pharmacotherapy for dealing with this set of pediatric disorders. For the most part, I accept the assertions of scholars that the development of the modern ADHD diagnosis can be attributed partly to broader shifts in psychiatry. However, I contend that it was a sense of pragmatism, rather than an embrace of new theories and discarding of old ones, that guided the psychiatrists who established the efficacy of stimulant therapy during the 1950s and 1960s. Ironically, clinicians and researchers who played crucial roles in this development harbored some of the greatest doubts about the use of medication. In line with my thesis, my examination of clinicians and their views on the disorder and its treatment emphasize the broader contexts in accounting for the reception of intellectual ideas in medicine, as well as how clinical experience could direct practices more powerfully than theory.

Introduction

In response to contemporary interest in ADHD and Ritalin, scholars have examined the broader historical dimensions of the disorder and its management with stimulants. Many of these historical inquiries have been driven by an attempt to understand how the behavioral problems of children were defined as medical conditions

and how pharmacotherapy came to dominate as the preferred treatment. In particular, historian Matthew Smith has argued that the establishment of hyperactivity as a neurological disorder with an organic basis derived from an internal conflict within American psychiatry during the 1960s. Biological psychiatry triumphed over psychoanalysis and social psychiatry not because its approach was more scientifically valid, he argues, but because the condition's management with pharmaceuticals was deemed more "practical, efficient, inexpensive and, in some ways, more cautious" than rival approaches.³

Scholars Rick Mayes and Adam Rafalovich take a somewhat less critical view. Their analysis minimizes the impact of psychoanalytic and social psychiatric approaches to the problem of hyperactivity in children and does not adequately problematize competing schools of thought in psychiatry during the postwar era. At the same time, however, they provide a coherent narrative for the development of the ADHD diagnosis and stimulant therapy. Their interpretation is somewhat positivist, overlooking the validity of competing approaches, but they do emphasize that the medication of children for behavioral problems was controversial during the immediate postwar era. Moreover, Mayes and Rafalovich underscore the role of federal support for research into child hyperactivity, especially funding by the National Institute of Mental Health (NIMH) to

³ Matthew Smith, "Psychiatry Limited," 554. Smith's comment about the "more cautious" approach of biological psychiatry deserves some explanation. Pharmacotherapies such as methylphenidate were understood by some psychiatrists as only managing symptoms of hyperactivity, not as a treatment for the disorder. In addition, these drugs produced untoward effects in some children, including growth inhibition, insomnia, irritability, and anorexia. Smith contends that psychopharmacologists accepted methylphenidate's therapeutic limitations and side effects because the drugs did what psychoanalysis could not: "they calmed hyperactive children down in a matter of minutes." Moreover, Smith notes that psychopharmacology took a cautiously optimistic tone that emphasized that if the drugs were not perfect at the time, then at least their efficacy would improve over time as better products were brought to the market by pharmaceutical firms. As an example, Smith points to a 1971 article by psychiatrist Joseph O. Cole that was pessimistic on the surface, but concluded that "while there was plenty of work yet to be done, psychiatric ambitions of miracles would be realized eventually." Smith, "Psychiatry Limited," 552-553.

establish pharmacotherapy as efficacious for the disorder.⁴ Although their research is less grounded within the history of psychiatry, their perceptive consideration of public policy contributes to scholars' understandings of the broader social and political framework within which ADHD emerged.

In a somewhat different vein, scholar Ilina Singh calls attention to the ways in which the hyperkinesis and ADHD diagnoses have been gendered.⁵ In particular, she has analyzed the ways in which mothers were often located at the center of political, moral, and scientific discourses over their sons' behavioral problems.⁶ She observes that psychoanalytically oriented psychiatry in the immediate postwar period equated maladjusted boys with the type of men who suffered psychological trauma during World War II.⁷ In particular, Surgeon General Edward Strecker's 1946 book *Their Mothers' Sons* had attributed soldiers' breakdowns to emotional immaturity stemming from improper parenting.⁸ Against the backdrop of the Cold War, Singh argues that mothers in the late 1940s and 1950s endured the burden of expectations to raise mature men essential to the future of democracy. Hence, she contends that during the 1960s, women who had been "schooled to give their children up to expert treatment, weary of mother-blame, and anxious to look good in the eyes of society" readily embraced novel

⁴ Mayes and Rafalovich, "Suffer the Restless Children."

⁵ Singh, "Bad Boys, Good Mothers."

⁶ The identification of ADHD and its antecedents with boys in particular is an important feature of the disorder.

⁷ The best known proponent of this view within psychoanalysis was Frieda Fromm-Reichmann. See Frieda Fromm-Reichmann, "Notes on the Development of Treatment of Schizophrenics by Psychoanalytic Psychotherapy," *Psychiatry* 11, no. 3 (August 1948): 263–273.

⁸ Edward Strecker, *Their Mothers' Sons*.

biological explanations of hyperactivity in boys and its treatment with stimulant drugs.⁹ Through a study of drug advertising, she also demonstrates how drug firms such as Ciba marketed Ritalin for problem boys (See Figure 4.1).¹⁰

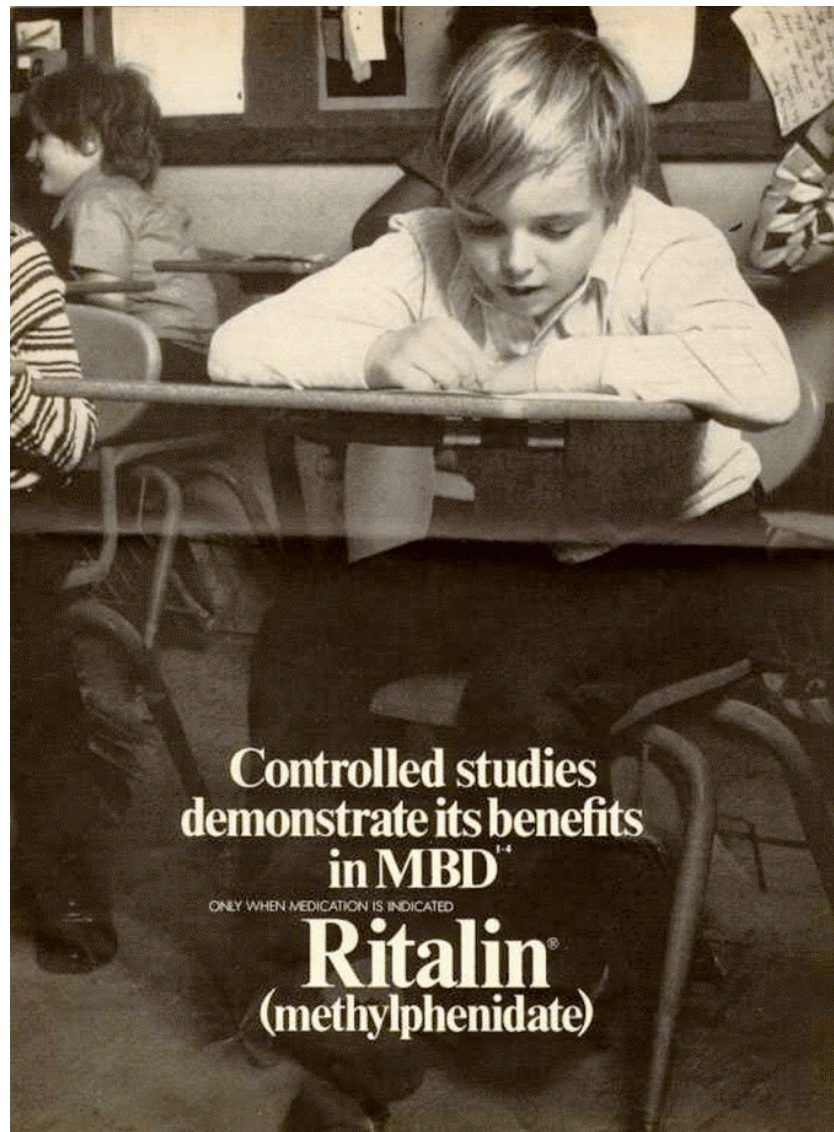


Figure 4.1 – 1960s advertisement for Ritalin in the treatment of minimal brain dysfunction (MBD), one of the diagnostic antecedents for ADHD. (Source: Journal unknown. The author thanks Ben Hansen for this image.)

⁹ Singh, “Bad Boys, Good Mothers,” 593.

¹⁰ Ilina Singh, “Not Just Naughty.”

In addition, concern over hyperactive children during this era may also be understood in terms of a broader concern with conformity and juvenile delinquency. In 1960, sociologist and public intellectual Paul Goodman had pointed to the problems of a disaffected youth who were “growing up absurd” in an increasing complex society.¹¹ In particular, Goodman took aim at America’s “organized society” structured around office-based occupations that were neither meaningful nor challenging (resulting in a lack of what he termed “man’s work”). He recognized the plight of youth who refused to conform to a capitalist and consumerist society’s expectations of them. Likewise, historian James Gilbert has chronicled American society’s reaction to perceived juvenile delinquency as part of the 1950s youth culture.¹²

In this chapter, I add to scholars’ understandings of the historical dimensions of ADHD and stimulants by considering more closely the role of clinicians in establishing drugs such as methylphenidate as therapies for children. Noting the aforementioned divides within psychiatry at this time, I assert that clinical research and acceptance of its findings were driven more by a sense of pragmatism among physicians than by steadfast adherence to a theoretical approach to psychiatry. While many of the psychiatrists highlighted in this chapter may be identified as biologically oriented, I demonstrate that their acceptance of pharmacotherapy was not preordained. Mindful of the philosophical divides that existed in psychiatry at this time, I contend that a closer look at the clinicians who prescribed the drugs and propelled them into the public mindset provides a more

¹¹ Paul Goodman, *Growing Up Absurd: Problems of Youth in the Organized Society* (New York: Random House, 1960). Goodman’s study may be considered an extension of the broader concern echoed in William H. Whyte, Jr., *The Organization Man* (1956; reprint, Philadelphia: University of Pennsylvania Press, 2002). See also, Herbert Marcuse, *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society* (1964; reprint, Boston: Beacon Press, 1991).

¹² James Gilbert, *A Cycle of Outrage: America’s Reaction to the Juvenile Delinquent in the 1950s* (New York: Oxford University Press, 1986).

comprehensive interpretation of the disorder and the key historical actors who gave it meaning.

Although the prescription of stimulants to children included pediatricians, neurologists, and family practitioners, I make psychiatrists my focus in this chapter. An important reason for my emphasis on psychiatry derives from its leadership in the research advances made during the 1950s and 1960s. To be sure, there were notable exceptions, such as the groundbreaking contributions of pediatrician Charles Bradley. But for the most part, pediatric psychiatry led the way. As psychiatrists' findings translated into clinical practice, pediatricians and neurologists came to play important roles as prescribers. As I discuss in Chapter 7, pediatricians eventually would displace psychiatrists as the primary prescribers. But given this chapter's focus on clinical research, I have chosen to limit my discussion to the psychiatrists who played a leading role.

Hand-in-hand with the importance of clinical experience in the rise of pharmacotherapy was the advent of new methods, both qualitative and quantitative, for gauging children's reactions to the drugs. Scholars of ADHD have tended to discount the importance of these ways of measuring performance and how they helped to solidify pharmacotherapy's place during the 1960s and 1970s. Yet as scholars such as Theodore Porter have argued, the ascendancy of such tools was vital to the establishment of the drugs' scientific and medical legitimacy.¹³

¹³ Theodore Porter, *Trust in Numbers: The Pursuit of Objectivity in Science and Public Life* (Princeton, NJ: Princeton University Press, 1995).

The Origins of Hyperkinesis: George Still and Alfred Tredgold

The first reports of symptoms resembling modern-day ADHD diagnoses appeared in 1902, when British physician George Still presented several lectures at the Royal College of Medicine. Still described 20 children as possessing a number of common traits. He noted that they were “aggressive,” “defiant,” “resistant to discipline,” “excessively emotional,” and “passionate,” with an overriding trait of a “major defect in moral control.”¹⁴ While Still suggested that these children’s shared characteristics might be related to their low social class, he more emphatically posited that their behavioral problems derived from a biological etiology. Still’s observations were important because they anticipated views in medicine that held that an individual’s behavior owed more to biology than moral failings. Debates about whether ADHD and its antecedents have represented the medicalization of unruly children have continued unceasingly since these initial observations. However, Still’s idea that such moral deficits in children represented “the manifestation of some morbid physical condition” would guide clinical research on what became known as ADHD for the next century.¹⁵

¹⁴ George Still, “The Goulstonian Lectures on Some Abnormal Psychical Conditions in Children,” *Lancet* 1 (April 12, 1902): 1008.

¹⁵ George Still, “The Goulstonian Lectures on Some Abnormal Psychical Conditions in Children,” *Lancet* 1 (April 26, 1902): 1165. At the same time, however, Still’s ideas were informed in part by social Darwinism. Note, for example, Still’s argument that the “moral ineptitude” in the children he saw reflected “a special inability to loss or failure in development quite in accordance with the phenomenon of evolution.” (Ibid.) Although subsequent psychiatric research would be less guided by such a viewpoint, it did inherit a belief that the child with behavioral problems was, in the words of Mayes and Rafalovich, an “object of science, or the point at which the discourse of medicine began to compete with the conventional perspectives that separated morality from any type of medical concern.” Mayes and Rafalovich, “Suffer the Restless Children,” 438.

ADHD’s diagnostic antecedents raise another historical issue. In attempting to understand differences between the way the disorder is understood today and how it may have been experienced and interpreted in the past, historians would do well to consider the observations of Joan Jacobs Brumberg, Allan Young, and Andrea Tone. In their respective studies of anorexia, post-traumatic stress disorder, and anxiety, these historians caution against assuming that psychiatric disorders are fixed in time. As Brumberg notes of anorexia, its epidemiology has been difficult to track over time due to a lack of standardized diagnostic criteria and extraordinarily individualized manifestation. Likewise, Tone observes

Still's approach should be understood within the context of the burgeoning eugenics movement taking place in the early twentieth century in Britain and, later, the United States. The concept of modern eugenics originated with the British scientist Francis Galton, who spent much of his career building upon the ideas put forth by his cousin Charles Darwin in *On the Origin of Species*. Galton coined the term eugenics in 1883 as a replacement for previous terms such as “viriculture” and “stirpiculture” in order to describe the cultivation of good men and women. At the heart of his work was a concern for how particular physical and mental characteristics were passed from one generation to the next, and how such inherited traits might be controlled to breed “better” humans. Galton's interest in heredity and his development of eugenics were also part of the scientific debates regarding man and his place in nature, fueled by Darwin's ideas, which raged throughout Victorian Britain. From Galton's comments on the subject, eugenics quickly gained traction as a science in the United States, Britain, and other European nations.¹⁶

how anxiety had been interpreted in the past as “the manifestation of a troubled spirit, a defective will, a lack of courage, or an unhealthy constitution,” partly due to the fact that anxiety had not yet come under the purview of psychiatry. Hence, what is now known as a medical disorder was historically experienced and explained in a number of different ways. See Joan Jacobs Brumberg, *Fasting Girls: The History of Anorexia Nervosa*, rev. ed. (New York: Vintage Books, 2000), chap. 1; Allan Young, *The Harmony of Illusions: Inventing Post-Traumatic Stress Disorder* (Princeton, NJ: Princeton University Press, 1995), chap. 1; and Tone, *Age of Anxiety*, chap. 1.

¹⁶ For more on the life of Francis Galton, see Nicolas Wright Gillham, *A Life of Sir Francis Galton: From African Exploration to the Birth of Eugenics* (New York: Oxford University Press, 2001); Martin Brookes, *Extreme Measures: The Dark Visions and Bright Ideas of Francis Galton* (New York: Bloomsbury Publishing, 2004); and Michael Bulmer, *Francis Galton: Pioneer of Heredity and Statistics* (Baltimore: Johns Hopkins University Press, 2003). For more on the Eugenics Education Society (EES) responsible for developing eugenics as a viable field in England during the early twentieth century, see Donald MacKenzie, “Eugenics in Britain,” *Social Studies of Science* 6, no. 3-4 (September 1976): 499-532. MacKenzie's article is notable because of his argument that eugenics was essentially a middle class ideology.

Eugenics also influenced biology, psychology, the social sciences, and public policy. In his study of eugenics in Britain, historian G. R. Searle has drawn attention to the fact that the Eugenics Education Society (EES), the field's primary society in England, included physicians and social workers among its members.¹⁷ Even the Medical Sociology Section of the British Medical Association was heavily influenced by eugenicist ideas.¹⁸ In addition to the sway of eugenics on the British medical establishment during the early twentieth century, historian Mathew Thomson has underscored the movement's role in the development of concepts such as "mental deficiency" and its attempted regulation through policymaking. Britain's Education Act of 1876, which made attendance at a public elementary school mandatory for children, was particularly crucial in revealing a group of children who had mental disabilities or were otherwise slow learners. The Mental Deficiency Act of 1913 was passed by Parliament to provide specialized care, either in institutions or rural "colonies," for individuals newly defined as mentally deficient. Political leaders spearheaded the legislation out of a belief that the mentally deficient were unable to serve as responsible citizens. Hence, it was necessary for the state to ensure their welfare and control. This belief that the mentally deficient required special treatment, as well as their membership

¹⁷ See G. R. Searle, *Eugenics and Politics in Britain, 1900-1914* (Leyden: Noordhoff International Publishing, 1976). Searle's observations on eugenics are also discussed in his broader work, *The Quest for National Efficiency: A Study in British Politics and Political Thought, 1899-1914* (Berkeley: University of California Press, 1971). Donald MacKenzie makes a similar observation in his aforementioned article on the EES.

¹⁸ R. J. Halliday, "The Sociological Movement, the Sociological Society, and the Genesis of Academic Sociology in Britain," *Sociological Review* 16, no. 3 (November 1968): 394.

as part of a larger “social problem group,” reflected the leading eugenic theories of Victorian Britain.¹⁹

Such a eugenicist orientation informed the research of Britain’s leading expert on mental impairment, Alfred F. Tredgold, who first postulated that unruliness in children could be attributed to some form of mild brain damage, perhaps suffered during birth, that passed undetected until the child reached school age. He credited the passage of the Education Act as critical to the discovery of a “group of children who were so far mentally defective that they could not be satisfactorily taught in the ordinary public schools, but who were not sufficiently defective to be certified as imbeciles or idiots under the Idiots Act of 1886.”²⁰ Taking Still’s assertions and elaborating on them further, Tredgold argued that the environmental circumstances of these children were not the cause, but the product of the condition’s “pronounced morbid inheritance.”²¹ How then, could an interested observer actually see this “inheritance?” For Tredgold, the key was a profound inattentiveness in such children:

Attention.—The most trifling thing serves to distract these children from their occupation, so that even where the attention is readily gained, it is with difficulty held. Many of them become capable of pursuing a congenial task with a certain amount of patience, but the majority have neither sufficient power of concentration or will to be capable of sustained mental effort against inclination or interposed obstacles....School-teachers often complain of the lack of *memory* of these children....

Control is very feebly developed in these children, and action is always along the line of least resistance. Volition is by no means absent, but their behavior is more often the result of sudden desired and impulses than of deliberate purpose.²²

¹⁹ Mathew Thomson, *The Problem of Mental Deficiency: Eugenics, Democracy, and Social Policy in Britain, c. 1830-1959* (New York: Oxford University Press, 1998).

²⁰ Alfred Tredgold, *Mental Deficiency (Amentia)*, 4th ed. (New York: William Wood & Co., 1922): 174.

²¹ *Ibid.*, 184.

With this description, Tredgold identified what would later become the hallmark of the ADHD diagnosis. Still had also described children in similar terms 20 years earlier, but what differentiated Tredgold was his belief that the working class did not have a monopoly on producing “brain-damaged” children. Rejecting the eugenicist overtones of his predecessor, Tredgold postulated that *encephalitis lethargica* (or, “sleepy sickness”) was to blame for children’s behavioral problems. Following a worldwide epidemic of *encephalitis lethargica*, lasting from 1917 to 1928 and killing up to 5 million people, physicians noted that some child survivors of the epidemic had symptoms ranging from antisocial behavior and irritability to impulsiveness and hyperactivity.²³ Though few of the child survivors of the *encephalitis lethargica* epidemic had indications that would correspond with the modern ADHD diagnosis, the recognition of “postencephalitic behavior disorder” further cemented the idea that behavioral problems in children might have a biological explanation.²⁴

A conundrum remained: If a child’s behavioral problems could be explained as the result of brain damage or disease rather than a product of social development, what therapies could medicine offer? The medicalization of these children was a double-edged sword. Offering a scientific explanation for the behavior of unruly children brought them under the sway of medical authority, but without efficacious therapies, physicians risked losing that authority, especially in the face of detractors who claimed that discipline was the answer to what were essentially products of poor childrearing and home

²² Tredgold, *Mental Deficiency*, 184.

²³ For more on *encephalitis lethargica*, see Kenton Kroger, “Epidemic Encephalitis and American Neurology, 1919-1940,” *Bulletin of the History of Medicine* 78, no. 1 (Spring 2004): 108-147.

²⁴ For more on the relationship between *encephalitis lethargica* and diagnostic antecedents of ADHD, see Mayes and Rafalovich, “Suffer the Restless Children,” 440-441.

environment.²⁵ However, an accidental discovery just a couple of decades later would provide physicians with a means for treating behavioral problems. As with other accidental discoveries in medicine, history has often turned on such details.

Charles Bradley and the Advent of Benzedrine Therapy

In 1934, American researchers Eugene Kahn and Louis Cohen discussed a set of children who exhibited many of the symptoms described by Still and Tredgold in Britain. Their patients were marked by talkativeness, terseness, and clumsiness. But all of these symptoms were secondary to a “primary behavioral abnormality”—hyperactivity.²⁶ For Kahn and Cohen, the symptoms, especially hyperactivity, were the result of what they termed “organic drivenness,” suggesting how these children’s behavioral problems were the result of internal impulses rather than reactions to external stimuli. But what really differentiated these children was the fact that Kahn and Cohen could not identify a history of neurological trauma among any of them. Earlier explanations that emphasized brain damage or disease did not appear to fit. Instead, Kahn and Cohen offered a theory that a congenital defect in the part of the brainstem responsible for regulating activity levels might be responsible for the “congenital drivenness” they observed.²⁷ At the time

²⁵ In many ways, this conundrum mirrored the dilemma facing psychiatry as a whole during the early twentieth century. As scholars such as Joel Braslow, Deborah Doroshow, and Jack Pressman have emphasized, somatic therapies such as hydrotherapy, insulin coma, and even psychosurgery amounted to heroic therapies by psychiatrists convinced that acting upon the body, sometimes with impunity, was necessary to address the mental ills of their patients. If these therapeutic interventions had limited efficacy with compared with later pharmacotherapy, they were nonetheless performed by psychiatrists convinced of the reality of their patient’s medical condition.

²⁶ Eugene Kahn and Louis Cohen, “Organic Drivenness: A Brain Stem Syndrome and an Experience with Case Reports,” *New England Journal of Medicine* 210, no. 14 (April 5, 1934): 748-756.

²⁷ For more on the work of Khan and Cohen, see Russell J. Schachar, “Hyperkinetic Syndrome: Historical Development of the Concept,” in Eric A. Taylor, ed. *The Overactive Child* (Oxford: Blackwell, 1986): 19-40; and Seija Sandberg and Joanne Barton, “Historical Development,” in Seija Sandberg, ed. *Hyperactivity Disorders of Childhood* (Cambridge: Cambridge University Press, 1996): 1-29. My

of its publication, their work and this thesis received relatively little attention, but it would greatly impact an important experiment three years later when their concept of “organic drivenness” would guide the diagnostic ideas of physicians at the Bradley Home.²⁸

The Emma Pendleton Bradley Home, in Providence, Rhode Island, opened its doors in 1931. The institution was named in memory of George and Helen Bradley’s daughter, who was born in 1879 and stricken with encephalitis at the age of seven. Young Emma survived her bout with the disease, but it took a horrible toll, leaving her mentally disabled and suffering from cerebral palsy and epilepsy. Because of a lack of pediatric hospitals and a dearth of pediatric neurologists and psychiatrists, the Bradleys arranged for constant home care for their daughter. Despite their wealth, they were forced to concede that after 18 years of care, Emma had improved little. After George Bradley’s death in 1906, his fortune went to the creation of a medical facility for the treatment of children like Emma. Maurice Laufer, a researcher and the eventual director of the hospital recalled that children were admitted due to neurological and orthopedic disability, but also because they exhibited “difficult or irascible behavior.”²⁹

discussion of Kahn and Cohen is particularly indebted to Mayes and Rafalovich, “Suffer the Restless Children,” 441-442.

²⁸ Maurice Laufer, “In Osler’s Day it Was Syphilis,” in E. James Anthony, ed. *Explorations in Child Psychiatry* (New York: Plenum, 1975): 107. The most comprehensive study of the Benzedrine experiments conducted by Charles Bradley at that Bradley Home is Elizabeth Bromley, “Stimulating a Normal Adjustment: Misbehavior, Amphetamines, the Electroencephalogram at the Bradley Home for Children,” *Journal of the History of the Behavioral Sciences* 42, no. 4 (Fall 2006): 379-398. Bromley takes an anthropological approach to the use of Benzedrine and concludes that the adoption of organic models of children’s behavioral problems which has flowed, in part, from Bradley’s findings should be viewed more as an “historical and sociocultural event, not a technoscientific achievement.”

²⁹ Laufer, “In Osler’s Day,” 106. Note that here, “orthopedic” is used in its more classical sense to mean correction of children’s deformities, rather than its more modern usage of the prevention and correction of deformities and injuries to the skeletal system.

The activity of the Bradley Home should be understood within the social and political contexts of the time, as well as new developments within American psychiatry toward children. On the one hand, the clinic could be interpreted as an extension of Progressive Era values. From addressing the problems of underage labor to juvenile delinquency, child welfare had been a special concern for Progressive reformers.³⁰ The Bradley Home was conceived alongside other child clinics of the time that took up juvenile delinquency and criminality as main concerns and explained children's behavior along diagnostic lines such as predelinquency or maladjustment.³¹ As historian Kathleen Jones has observed, many social reformers during the day relied upon social or environmental explanations to explain and deal with these children. Eugenicist ideas imported from Britain also became influential during the late Progressive Era and interwar period.³² Historian Ian Robert Dowbiggin has suggested that American psychiatrists during this time were influenced by and supported eugenicist ideas, although

³⁰ For pertinent examples of this Progressive Era concern for children, see James Marten, *Childhood and Child Welfare in the Progressive Era: A Brief History with Documents* (New York: Bedford/St. Martin's, 2005); Walter I. Trattner, *Crusade for the Children: A History of the National Child Labor Committee and Child Labor Reform in America* (Chicago: Quadrangle Books, 1970); Jack M. Holl, *Juvenile Reform in the Progressive Era: William R. George and the Junior Republic Movement* (Ithaca, NY: Cornell University Press, 1971); Susan Tiffin, *In Whose Best Interest? Child Welfare Reform in the Progressive Era* (Westport, CT: Greenwood Press, 1982); Elizabeth J. Clapp, *Mothers of All Children: Women Reformers and the Rise of the Juvenile Courts in the Progressive Era* (University Park: Pennsylvania State University Press, 1998).

³¹ Kathleen W. Jones, *Taming the Troublesome Child: American Families, Child Guidance, and the Limits of Psychiatric Authority* (Cambridge, MA: Harvard University Press, 1999). See also, Margo Horn, *Before It's Too Late: The Child Guidance Movement in the United States, 1922-1945* (Philadelphia: Temple University Press, 1989).

³² For an excellent introduction to the period, see Richard Hofstadter, *Social Darwinism in American Thought* (1944; reprint, Boston: Beacon Press, 1992), especially chap. 8. For more detailed discussions, see Daniel J. Kevles, *In the Name of Eugenics: Genetics and the Uses of Human Heredity* (1985; reprint, Cambridge, MA: Harvard University Press, 1995); and Wendy Kline, *Building a Better Race: Gender, Sexuality, and Eugenics from the Turn of the Century to the Baby Boom* (Berkeley: University of California Press, 2001). Whereas Kevles interprets the late Progressive Era and the immediate interwar period (i.e. 1920s) as the apex of the eugenics movement and the 1930s and 1940s as a period of subsequent decline, Kline places more emphasis on the 1930s and 1940s. Of these two somewhat different interpretations, I tend to side more with Kevles than Kline.

their support of policies such as sterilization had more to do with their own professional interests than notions of “improving the race.”³³

In addition to the sway of Progressive Era views on child behavior, the Bradley Home was also influenced by parallel developments in American child psychiatry. Perhaps most influential were the contributions of Swiss psychiatrist Adolf Meyer, who emigrated to the United States at the end of the nineteenth century and rose to prominence as a professor of psychiatry at Johns Hopkins University and director of the Johns Hopkins Hospital’s Henry Phipps Psychiatric Clinic. Arguably one of the most influential psychiatrists in the United States during the first half of the twentieth century, Meyer is remembered for his theory of psychobiology, which held that in order to understand a patient’s particular ailment, it was necessary for the physician to take an extensive case study that considered the vast array of biological, psychological, and social factors that contributed to the patient’s environment and mindset. The impetus behind psychobiology was Meyer’s belief that mental illness was psychogenic rather than biological in origin, and that detailed case histories held the key to understanding what triggered the mental illness. In reality, however, Meyer’s views were eclectic and changed dramatically during the course of his long career.³⁴

The founders of the Bradley Home modeled their institution after nineteenth century asylums, with moral management as the main therapeutic goal for its troubled pediatric patients. At the same time, however, the Home’s leaders emphasized the

³³ Ian Robert Dowbiggin, *Keeping America Sane: Psychiatry and Eugenics in the United States and Canada, 1880-1940* (1997; reprint, Ithaca, NY: Cornell University Press, 2003).

³⁴ For more on Meyer, see John C. Burnham, *Psychoanalysis and American Medicine, 1894-1918: Medicine, Science, and Culture* (New York: International Universities Press, 1967); and Shorter, *A History of Psychiatry*, 109-112.

hospital's commitment to the latest scientific advances. In addition to its clinical component, the Bradley Home also contained a rich program of experimental research, headed by faculty members at Brown University, in the areas of neurophysiology, neurological psychology, and electroencephalography (EEG). With such a broad mission, perhaps it comes as little surprise that the Bradley Home was staffed at the time of its opening with both pediatricians, headed by Dr. Charles Bradley (no relation to the home's founders), and psychiatrists, under the direction of Dr. Arthur Ruggles. Such a cross-disciplinary orientation had its problems. Leading what was then called the first neuropsychiatric hospital for children, Charles Bradley was motivated by a belief that nervous system abnormalities were the cause of children's behavioral problems.³⁵ His orientation toward neurological approaches contrasted with prevailing theories of the child guidance movement. In particular, Bradley criticized pediatric psychiatry's focus on emotional conflicts as key to understanding the problems of children. Tensions between the two groups soon escalated to the point that the psychiatrists left, and the hospital was staffed primarily by pediatricians and a few psychologists under Bradley's leadership.³⁶

Children admitted to the Home were routinely given a pneumoencephalogram, a painful form of spinal tap that resulted in common complaints of headache. In order to diminish these unhappy sequelae, the physicians at the Bradley Home theorized that agents that would increase the blood pressure could increase the rate of restoration of cerebral spinal fluid and help alleviate the headaches. One such agent was the newly introduced stimulant Benzedrine, valued here for its qualities as a vasopressor. Bradley

³⁵ Bromley, "Stimulating a Normal Adjustment," 383-384.

³⁶ Bromley, "Stimulating a Normal Adjustment," 383; and Laufer, "In Osler's Day," 106.

began treating children with amphetamine following the procedure, out of a belief that it would stimulate the choroid plexus in the ventricular system of the brain to produce more spinal fluid, consequently reducing the pressure on the children's sinuses that caused their headaches.³⁷

One revealing anecdote related by Laufer was that, in "good scientific fashion," this medication was tried not just on children suffering from postpneumo headache but also in another group of children who had not undergone this procedure. The children themselves noted the appearance of "sudden and unexpected increments" in their ability to handle mathematics problems, and they soon began referring to the Benzedrine as their "arithmetic pills."³⁸ Following their initial observations of the drug's effects on the children, the staff began to study more carefully the behavioral results of Benzedrine, and such explorations led to its eventual use as a treatment modality.

Moving to develop these empirical observations into something more scientifically rigorous, Bradley had consciously prescribed Benzedrine not only to children suffering from headaches, but also to a second group of children who comprised a control group. So, although Bradley's test would not have been a randomized, double-blind, and controlled experiment (what would be considered the gold standard of objective medicine today), it was single-blind and controlled. In 1937, he reported his findings. Benzedrine had essentially the same effects on both groups. Children were reported to spontaneously remark, "I have joy in my stomach," "I feel peppy," "I feel fine and can't seem to do things fast enough today," and "I start to make my bed and before I

³⁷ "Images in Psychiatry: Charles Bradley, M.D., 1902-1979," *American Journal of Psychiatry* 155, no. 7 (July 1998): 968.

³⁸ Laufer, "In Osler's Day," 108.

know, it is done,” and other similar insights.³⁹ These findings prodded Bradley to acknowledge auspiciously that, “It appears paradoxical that a drug known to be a stimulant should produce subdued behavior in half of the children.”⁴⁰ Yet, at the same time, he also sought to provide a biological explanation for his findings, concluding that “portions of the higher levels of the central nervous system have inhibition as their function, and that stimulation of these portions might indeed produce the clinical picture of reduced activity through voluntary control.”⁴¹

Bradley continued his research into the effects of Benzedrine on hyperactive and otherwise unruly children until the early 1950s, but his earliest published article on the subject probably remains his most judicious and balanced, all while foreshadowing future conflicts in the administration of such potent drugs to children. On the one hand, Bradley noted that when Benzedrine was discontinued, many of the children’s behavior problems reemerged. “To see a single daily dose of Benzedrine produce a greater improvement in school performance than the combined efforts of a capable staff working the a most favorable setting,” he observed, “would have been all but demoralizing to the teachers, had not the improvement been so gratifying from a practical viewpoint.”⁴² Tempering his optimism, however, Bradley concluded that “any indiscriminate use of Benzedrine to produce symptomatic relief might well mask reactions of etiological significance[,] which in every case should receive adequate attention.”⁴³ Though a pediatrician himself,

³⁹ Charles Bradley, “The Behavior of Children Receiving Benzedrine,” *American Journal of Psychiatry* 94, no. 3 (November 1937): 579.

⁴⁰ *Ibid.*, 582.

⁴¹ *Ibid.*

⁴² *Ibid.*

Bradley went even further to argue that the factors involved in such behavior disorders were so many and so varied that only physicians adequately trained in child psychiatry could properly evaluate them.

Psychoanalytic and Social Psychiatric Approaches to Children

To varying degrees, Bradley has been remembered for his contributions to the development of the modern ADHD diagnosis and its treatment. Among commentators today, he has been viewed as something of a historical footnote to current understandings of the disorder.⁴⁴ More recently, scholars have attempted to understand the broader contexts and contributions of Bradley's research.⁴⁵ However, the influence of Bradley's work on his contemporaries has been less clear, and scholars have yet to comprehend why Bradley's findings would be largely ignored until the late 1950s and 1960s.

Historians such as Shorter have emphasized the hegemony exerted by the "psychoanalytic hiatus" in American psychiatry during the immediate postwar era. Indeed, historian Nathan Hale has identified the 1950s as the peak of psychoanalysis in American psychiatry. While it remains necessary to complicate the shift from a psychodynamic to a biological orientation, it is also important to bear in mind the commanding intellectual heft of psychoanalysis in this era. Of added import, few subspecialties were more influenced by analytical ideas than child psychiatry.

Historian Nathan Hale has called attention to the rise of child guidance clinics during the 1920s and 1930s. They were originally designed to rehabilitate juvenile

⁴³ Bradley, "The Behavior of Children," 584.

⁴⁴ Diller, *Running on Ritalin*, 24-25; DeGrandpre, *Ritalin Nation*, 174; and Conrad, *Deviance and Medicalization*, 156.

⁴⁵ The definitive study of Bradley's Benzedrine experiments remains Bromley, "Stimulating a Normal Adjustment." See also, Singh, "Bad Boys, Good Mothers," 588-590; Mayes and Rafalovich, "Suffer the Restless Children," 441-444; and Lakoff, "Adaptive Will," 153.

delinquents, but anxious mothers soon began seeking out the clinics in order to provide them with advice in rearing their “unhappy, troublesome non-delinquents.” Originally, the psychiatrists who staffed such clinics adopted an eclectic approach, but by the 1930s, they had become decidedly psychoanalytical in focus. Like much of the guidance literature of the day aimed at mothers, the clinics eschewed open references to Freudian concepts such as oral, anal, and Oedipal stages of development. But Hale has emphasized how the initial emphasis on “habit training” associated with the behaviorist movement was replaced after 1930 with one-on-one therapeutic sessions that emphasized “deeper, instinctive drives” associated with psychoanalysis and fostered such concepts as “maternal overprotection” as the cause of neurosis and delinquency in children.⁴⁶

Freudian ideas became increasingly entrenched during the immediate postwar period, affecting even hospitals with biological orientations such as the Bradley Home. As Charles Bradley’s association with the hospital drew to a close in the early 1950s, his research into the effects of amphetamines on children became influenced by two competing concerns. On the one hand, the Bradley Home remained committed to organic explanations for children’s behavioral problems. Interested in preserving this biological orientation, one of Bradley’s trainees, Dr. Eric Denhoff, was given the new responsibility of heading neurological research and ensuring that this direction remained prominent within the hospital. At the same time, Dr. Maurice Laufer, another associate of Bradley’s and the future chief of the hospital, came to believe that the psychodynamic aspects of children’s behavior needed more emphasis. Reflecting this increasing influence, Laufer took the opportunity to train at the Boston Psychoanalytic Society and Institute. Reflecting on this philosophical bifurcation in the way his hospital approached children’s

⁴⁶ Hale, *Rise and Crisis of Psychoanalysis*, 85-88.

behavior, Laufer conceded that his was a “very uncomfortable situation in which to be. Even to hint to fellow candidates that there might be an organic component of significance in some of the children under discussion was an invitation to be dealt with in a manner remarkably close to ostracism.”⁴⁷

While I have accentuated the occasional ambiguities of these two approaches to psychiatry, Laufer’s discomfort calls attention to how consideration of biological factors in mental illness was perceived as antithetical, if not outright hostile, to psychoanalysis in some professional circles. Laufer and Denhoff (and future research partner Gerald Solomons) would remain important contributors to hyperkinesis research, but an examination of their findings during the 1950s hints at the character of this tension. For example, in the late 1950s, as they implicated neurological explanations for a “hyperkinetic impulse disorder,” their work also referenced “associated ego disturbances” and “ego weaknesses,” as well as “the present permissive era of child management,” in a clear nod to the power of Freudian theory.⁴⁸

Others have echoed the pervasiveness of a psychodynamic orientation during the 1950s. Among these was pediatric psychiatrist Leon Eisenberg, who had trained at the University of Pennsylvania during the 1940s and spent his early career at Johns Hopkins University and Hospital, eventually succeeding the eminent Leo Kanner as the hospital’s second chief of child psychiatry. He observed that child psychiatry was dominated by psychoanalysis during these years. While not every practitioner was a psychoanalyst, it

⁴⁷ Laufer, “In Osler’s Day,” 110.

⁴⁸ See Maurice Laufer, Eric Denhoff, and Gerald Solomons, “Hyperkinetic Impulse Disorder in Children’s Behavior Problems,” *Psychosomatic Medicine* 19, no. 1 (January-February 1957): 39-48; and Maurice Laufer and Eric Denhoff, “Hyperkinetic Behavior Syndrome in Children,” *Journal of Pediatrics* 50, no. 4 (April 1957): 463-474.

was nevertheless “the comprehensive and intriguing psychological theory.”⁴⁹ Eisenberg’s sentiments were shared by psychiatrist Rachel Gittelman Klein, who pioneered the treatment of childhood disorders with her husband Donald Klein at Hillside Hospital in New York. She commented that many child psychiatrists had been trained in the analytic tradition. Even in the late 1970s, as efforts to reclassify hyperkinesis as ADD in the *DSM-III* were underway, some still defended its value: “Removing these etiological concepts from the nomenclature was very threatening. If only we had their wisdom and their vast experience, we wouldn’t be doing these terrible things!”⁵⁰

So far, I have discussed how the disjuncture between biologically and psychodynamically oriented approaches to psychiatry framed a number of conflicts within the profession during the postwar era. But as historian Matthew Smith has suggested, prevailing psychoanalytic theories were not the only encumbrance to the acceptance of pharmacotherapy for children during the late 1950s and early 1960s. Social psychiatry suggested a third approach to children’s behavioral problems.⁵¹

Though it tends to be somewhat overlooked by historians who have emphasized the struggle between psychodynamic and biological approaches, the American social psychiatry movement of the 1960s briefly suggested an alternative path for the profession.⁵² Alternately known as community psychiatry in the United States, social

⁴⁹ Leon Eisenberg, interview by David Healy, May 1998, Oral Histories Collection, International Neuropsychopharmacology Archives, American College of Neuropsychopharmacology, Vanderbilt University, Nashville, TN.

⁵⁰ Rachel Gittelman Klein, interview by David Healy, published in David Healy, *The Psychopharmacologists III* (London: Arnold, 2000), 325.

⁵¹ Smith, “Psychiatry Limited,” 444-448.

⁵² I qualify social psychiatry as American here in order to distinguish it from British social psychiatry. The English variant generally refers to the development of “therapeutic communities”

psychiatry was organized broadly around the reintegration of the mentally ill back into society through a combination of medication and counselling. But the social psychiatry movement had a broader vision that held that mental illness could be traced to environmental causes such as poverty, overcrowding, crime, and substance abuse. This emphasis on the role of socioeconomic factors was articulated best by President John F. Kennedy in his February 1963 Special Message to the United States Congress on Mental Illness and Mental Retardation.⁵³ In his address, the President called attention to the role of poverty in exacerbating the problem of mental illness, particularly among children, in the United States. As part of his broader New Frontier program, Kennedy's concerns provided the impetus for the passage of the Community Mental Health Centers Act of 1963.⁵⁴

While the major thrust of the Act was the deinstitutionalization of patients from mental hospitals, the broader social psychiatry movement showed concern for the role that disparities in race and class played in fostering mental illness and delinquency.

Psychiatric researchers such as Charles Malone and E.A. Grootenboer suggested that

developed around the concept of group psychotherapy for patients suffering from neuroses during the interwar and immediate post-World War II period. Examples of this movement included Joshua Bierer's program at the Runwell Hospital and Maxwell Jones's Industrial Neurosis Unit at the Mill Hill Emergency Hospital, both of which were near London. Later, the idea of the "therapeutic community" (a term coined by Jones) would find its fullest development in the day hospital movement, begun by Ewen Cameron at the Allan Memorial Institute in Montreal in 1946 and by Bierer at the Social Psychiatry Centre in London in 1948. By contrast, the American variant of social psychiatry discussed above would be less focused on group psychotherapy in favor of a more eclectic and wider range of concerns. For a concise discussion of the movement and differences between the British and American versions, see Shorter, *History of Psychiatry*, 229-238. It should be noted, however, that Shorter tends to be somewhat dismissive of the American movement.

⁵³ John F. Kennedy, "Message from the President of the United States Relative to Mental Illness and Mental Retardation," *American Journal of Psychiatry* 120, no. 8 (February 1964): 729-737.

⁵⁴ For more on the New Frontier, see John Morton Blum, *Years of Discord: American Politics and Society, 1961-1974* (New York: W. W. Norton & Company, 1991): 17-34. For more on the Community Mental Health Centers Act, as well as its follow-up legislation, see Grob, *From Asylum to Community*, and Gerald N. Grob and Harold H. Goldman, *The Dilemma of Federal Mental Health Policy: Radical Reform or Incremental Change?* (New Brunswick, NJ: Rutgers University Press, 2006).

poverty and exposure to crime and violence fostered children who were hyperactive, distracted, and impulsive.⁵⁵ The articulation of individual psychiatrists about environmental influences on children's behavior was mirrored by institutional interest. The Joint Commission on the Mental Health of Children was created following the passage of the Community Mental Health Centers Act, partly to address the socioeconomic issues surrounding mental illness in children. In addition, leaders from the American Psychiatric Association (APA) and editors from the *Journal of the American Academy of Child Psychiatry* took up social psychiatry's cause of mitigating environmental factors believed to promote psychiatric problems in children.⁵⁶

When it came to the issue of how to treat these children, however, solutions were less clear. As with psychoanalysis, some adherents of social psychiatry resisted pharmacological approaches to managing child hyperactivity. Rachel Klein recalled that the issue contained racial and political overtones, as many of the children treated for hyperactivity had come from ethnic minorities. Among those critical of the medicalization of children, it "was argued that medication was a form of pharmacological genocide, by interfering with children's free will and controlling their behavior."⁵⁷ Not all proponents of social psychiatry were necessarily opposed to the possibilities of managing children's behavioral problems with pharmaceuticals, however. Leon Eisenberg,

⁵⁵ Charles A. Malone, "Some Observations on Children of Disorganized Families and Problems of Acting Out," *Journal of the American Academy of Child Psychiatry* 1, no. 2 (January 1963): 22-49; Charles A. Malone, "Safety First: Comments on the Influence of External Danger in the Lives of Children of Disorganized Families," *American Journal of Orthopsychiatry* 36, no. 1 (January 1966): 3-12; and E. A. Grootenboer, "The Relation of Housing to Behavior Disorder," *American Journal of Psychiatry* 119, no. 5 (November 1962): 469-472. See also, Stella Chess et al., "Interaction of Temperament and Environment in the Production of Behavioral Disturbances in Disturbed Children," *American Journal of Psychiatry* 120, no. 2 (August 1963): 142-148.

⁵⁶ Smith, "Psychiatry Limited," 445.

⁵⁷ Klein, interview by Healy, 319.

responsible for some of the most important contributions in psychostimulant therapy for hyperkinesis, was also one of the strongest advocates of social psychiatry.⁵⁸ There were definitely competing views within psychiatry during 1950s and 1960s regarding the causes and treatment for children's behavioral problems. However, the case of Eisenberg reminds us of the hazards of reducing them to a simplistic "clash of the perspectives," as some historians have suggested.

Prelude to Pharmacotherapy

Even as psychodynamic concepts were shaping the direction of child psychiatry during the 1950s, some psychiatrists began to consider how pharmacotherapy could help children. The lauded success of chlorpromazine in the 1950s and its promise of a pharmacological solution to mental illness persuaded NIMH to create the Pharmaceutical Research Branch (PRB) in 1956. Two years later, the PRB sponsored a conference on the promise of drug therapy to treat psychological problems in children.⁵⁹ Perhaps the best summation of the conference was provided by Robert Felix, the first director of NIMH, who contended that drug therapy represented "tools of tremendous value but may also contain elements of danger."⁶⁰ Eisenberg was one of the attendees at the conference and served as a leading participant.⁶¹ That same year, he received the first federal grant to study child psychopharmacology. The major thrust of his proposal, however, was to study established tranquilizers such as chlorpromazine, as well as the new class of tricyclic antidepressants.

⁵⁸ Eisenberg, interview by Healy.

⁵⁹ The conference proceedings resulted in a book, Seymour Fisher, ed. *Child Research in Psychopharmacology, NIMH Conference, Washington* (Springfield, IL: Charles C. Thomas, 1959).

⁶⁰ Robert Felix, quoted in Fisher, *Child Research*, vii.

⁶¹ Eisenberg, interview by Healy.

Given that the defining characteristic of these children was hyperactivity, the use of tranquilizers such as chlorpromazine and reserpine for the treatment of hyperkinesis seemed plausible. In addition, it was difficult to ignore the breakthroughs that these drugs had represented for institutional psychiatry. It comes as little surprise, then, that during the mid-1950s there were several studies into the efficacy of these drugs for hyperkinesis.⁶² Although such studies would continue over the next couple decades, the potency of the tranquilizers, their emerging side effects, and the greater effectiveness established by the stimulants in subsequent studies all contributed to the inability of the major tranquilizers to take hold as a dominant therapy for childhood hyperkinesis.⁶³ Nevertheless, the rationale of psychiatrists in 1955 and 1956 to undertake such studies into chlorpromazine's effects on hyperkinesis was compelling. "Why use such a potent drug on these children instead of psychotherapy?" asked Herbert Freed and Charles Peifer in 1955. "Fundamentally, the chief need was to improve a situation, such as individual misbehavior in a school room where the authorities could use only limited controls in dealing with the student."⁶⁴ Their willingness to prescribe potent medications such as chlorpromazine to children suggests how misbehavior was perceived

⁶² Freed and Peifer, "Treatment of Hyperkinetic Emotionally Disturbed Children"; and Alfred M. Freedman, Abraham S. Effron, and Lauretta Bender, "Pharmacotherapy in Children with Psychiatric Illness," *Journal of Nervous and Mental Disease* 122, no. 5 (November 1955): 479-486.

⁶³ John Werry *et al.* "Studies on the Hyperactive Child—III: The Effect of Chlorpromazine upon Behavior and Learning Ability," *Journal of the American Academy of Child Psychiatry* 5, no. 2 (April 1966): 292-312; Gabrielle Weiss *et al.* "Studies on the Hyperactive Child—V: The Effects of Dextroamphetamine and Chlorpromazine on Behavior and Intellectual Functioning," *Journal of Child Psychology and Psychiatry* 9, no. 4 (December 1968): 145-156; Robert L. Sprague, Kenneth R. Barnes, and John S. Werry, "Methylphenidate and Thioridazine: Learning, Reaction Time, Activity, and Classroom Behavior in Disturbed Children," *American Journal of Orthopsychiatry* 40, no. 4 (July 1970): 615-628; Lawrence M. Greenberg, Michael A. Deem, and Shirley A. McMahon, "Effects of Dextroamphetamine, Chlorpromazine, and Hydroxyzine on Behavior and Performance in Hyperactive Children," *American Journal of Psychiatry* 129, no. 5 (November 1972): 532-539.

⁶⁴ Freed and Peifer, "Treatment of Hyperkinetic Children," 22.

simultaneously as a medical condition and discipline problem. But even more telling was the subsequent disclosure by the authors that 80 percent of the children they studied “were either illegitimate or from broken homes. Psychotherapy with the remaining parent was therefore, for economic or other reasons, impossible.”⁶⁵ These poor and socially disadvantaged children were constructed as patients for whom pharmacological solutions were touted as a more viable, if not the only, method for treatment. If psychotherapeutic and psychoanalytic methods, as already illustrated in the case of Laufer and Denhoff, had gained traction during the immediate postwar period, then the social, economic, and class characteristics of hyperkinesis during the 1950s and 1960s were beginning to reshape approaches toward the disorder’s management.

But why did these new studies concentrate on the major and minor tranquilizers and not the stimulants that had been Charles Bradley’s focus? Bradley’s observation that Benzedrine had calmed hyperkinetic children faced another hurdle toward immediate acceptance. Rachel Klein has observed that because so much time had elapsed since Bradley’s findings had been published, and because of the paradoxical nature of using stimulants to calm hyperactive children, she and other colleagues in the field simply did not find the work “that compelling.”⁶⁶

Also at issue were how new pharmaceuticals had come to dominate the field. Reflecting upon Bradley’s reported successes in 1962, Johns Hopkins child psychiatrist Quentin Rae Grant astutely observed that between the time of these initial findings and the early 1960s the face of psychiatry had been transformed by three new discoveries in

⁶⁵ Freed and Peifer, “Treatment of Hyperkinetic Children,” 22.

⁶⁶ Klein, interview by Healy, 318. Eisenberg made a similar observation in his interview with Healy.

psychopharmacology. “The surge of papers since 1955 has not been distributed equally either in terms of population studied or of drugs under survey,” Grant elaborated. “The big three, composed of chlorpromazine, reserpine, and meprobamate, have dominated the field and collectively account for about three fourths of the studies. On most other drugs there are at most 3 to 4 papers relating...to children.”⁶⁷ Given the widening scope of clinical research taking place at this time, Grant may have overstated the paucity of attention paid to children’s psychiatric disorders. However, his assertion that the “luxuriance of the growth in the number of agents has not been matched by rigorous investigation” apparently resonated with many colleagues.⁶⁸ For example, Victor Laties and Bernard Weiss described a cycle of “panacea, poison, to pedestrian remedy” in a thorough study of meprobamate in 1958.⁶⁹ As the studies on new pharmacotherapies evolved from case reports to group studies, and finally to controlled experiments, clinicians’ optimism about these medications’ efficacy began to wane.⁷⁰ While many psychiatrists were immediate, true believers in the power of psychopharmacology to improve their patients’ conditions, such enthusiasm was tempered by an increased rigor and even skepticism about the power of drugs to realize treatments. This latter view was especially common among clinical researchers (as opposed to practitioners) and may provide another explanation for why Bradley’s findings had less currency during these years.

⁶⁷ Quentin Rae Grant, “Psychopharmacology in Childhood Emotional and Mental Disorders,” *Journal of Pediatrics* 61 (October 1962): 628.

⁶⁸ Ibid.

⁶⁹ Victor G. Laties and Bernard Weiss, “A Critical Review of the Efficacy of Meprobamate in the Treatment of Anxiety,” *Journal of Chronic Disease* 7, no. 6 (June 1958): 500.

⁷⁰ Grant, “Psychopharmacology in Childhood,” 627.

Reestablishing Stimulant Therapy and the Role of Empiricism

As psychiatrists embraced psychopharmacology's potential for children during the late 1950s, a few researchers returned to Bradley's original studies. In one of the first studies to study the effects of Ritalin on children's behavior, two Kansas City child psychiatrists, George Lytton and Mauricio Knobel, administered the drug to 20 children referred for a variety of behavioral problems, particularly hyperactivity.⁷¹ In one case, the psychiatrists saw a boy who was "beyond parental control and has caused much dissention in the home with brother and sister," but otherwise had no abnormalities. Yet another case suggested sociologist David Riesman's concerns with conformity in schoolchildren during the 1950s.⁷² Lytton and Knobel described this patient as

very far below grade level. Plays for attention. He is very negative and irritable at times...will ask to talk to the teacher privately, as if upset about something, to keep from doing what he doesn't want to do...is very weak. He attaches himself to the moneyed, strong boys and will do anything to be one of them. The principal feels he is afraid to be on the side of the teacher. He drifts with the crowd.⁷³

The psychiatrists found it difficult to explain the behaviors exhibited by these children.

Yet they agreed that in almost all of the cases noted by Lytton and Knobel, Ritalin produced marked improvement. "Doesn't fight as much as before," "No more tantrums," "The teacher reports he is doing much better in school," "An entirely different boy," "Is more a part of the family," "Performs a task," "Does his homework," "For the first time in ten years I am relaxing," and "More talkative and friendly," were all responses that medication of these children with Ritalin elicited from parents and teachers. The

⁷¹ George Lytton and Mauricio Knobel, "Diagnosis and Treatment of Behavior Disorders in Children," *Diseases of the Nervous System* 20, no. 8 (August 1959): 336.

⁷² David Riesman, with Reuel Denney and Nathan Glazer, *The Lonely Crowd: A Study of the Changing American Character* (New Haven: Yale University Press, 1950).

⁷³ Lytton and Knobel, 336.

psychiatrists postulated that perhaps the answer lay in the effect that methylphenidate had on “immature nervous systems,” bringing them to a state of greater maturity, both psychologically and functionally, through the chemical action of the drug.⁷⁴ Lytton and Knobel’s studies were the first inquiries into the pharmacological management of children with Ritalin.

Elaborating several years later on his experiences with Ritalin therapy, Knobel suggested that better diagnostic criteria and testing could help clinicians discern whether their patients’ hyperkinesis was psychogenic or organic in origin, or perhaps both. But he observed that therapy in all cases was related to the “theoretical approach” of the therapist, with psychogenetists postulating psychotherapy or environmental changes as efficacious and organicists indicating drug therapy. However, Knobel articulated his own belief that pharmacotherapy did not interfere with psychotherapy; rather, he believed that drugs favored it. At the same time, however, it was difficult to overlook the impact of the drugs on his practice. Ritalin had brought about a marked improvement in 40 percent of 150 patients when used over an eight-month period, administered in doses of 20 to 40 milligrams twice daily. An additional 50 percent demonstrated moderate improvement, while 10 percent did not improve.⁷⁵

These initial findings soon gave way to a more sophisticated set of studies into the role of psychostimulants on children’s behavioral problems. In 1963, NIMH awarded psychiatrist Leon Eisenberg and psychologist C. Keith Conners with the first major grant to study the effects of methylphenidate on children with behavior disorders. Five years

⁷⁴ Lytton and Knobel, 336. See also, Eisenberg, interview with Healy.

⁷⁵ Mauricio Knobel, “Psychopharmacology for the Hyperkinetic Child,” *Archives of General Psychiatry* 6, no. 3 (March 1962): 32.

earlier, NIMH had supported Eisenberg's initial investigation of pharmacological therapies for children, but the 1963 grant was unique in its focus on psychostimulants. Even more important, however, was the emphasis placed on methodological rigor. While Knobel and Lytton had reported the efficacy of methylphenidate several years earlier, Eisenberg and Connors' work into this area marked the first instance of a double-blind, placebo controlled study on the drug for children.⁷⁶

In the next several years, Eisenberg and Connors discovered further evidence that methylphenidate proved significantly more effective than placebo in reducing symptoms in institutionalized children who were described as "lead[ing] into trouble," "disobedient," "lying," "listless & apathetic," "childish or immature," and "quarrelsome."⁷⁷ In 1966, Eisenberg wrote that his and Connors's three studies, taken together, "serve to establish, both by clinical judgment and by objective test results, the efficacy of stimulant drugs in treating hyperkinesis against the negative effects of phenobarbital."⁷⁸

It is difficult to overstate the significance of Eisenberg and Connors' work. Their contemporaries identified the findings as seminal to understanding the efficacy of stimulant therapy; Eisenberg's contributions were later lauded in Congressional hearings. Yet it is equally important to acknowledge that at the time of their discovery, psychiatrists still harbored doubts about the efficacy of psychostimulants within the psychiatric community. Historical interpretations have tended to overlook the role of

⁷⁶ Eisenberg, interview with Healy. See also, C. Keith Connors and Leon Eisenberg, "The Effects of Methylphenidate on Symptomatology and Learning in Disturbed Children," *American Journal of Psychiatry* 120, no. 5 (November 1963): 458-464.

⁷⁷ Connors and Eisenberg, "Effects of Methylphenidate," 459.

⁷⁸ Leon Eisenberg, "The Management of the Hyperkinetic Child," *Developmental Medicine and Child Neurology* 8, no. 5 (October 1966): 596.

empiricism, and perhaps healthy skepticism, in fueling additional work that cemented Conners and Eisenberg's initial findings.

Reflecting on how psychostimulants came to be understood as effective, Rachel Klein recounted, "Early on, Leon Eisenberg was critical. He was one of the very first to conduct psychopharmacological studies in children with behavior disorders."⁷⁹ However, Klein also conceded that despite the importance of Conners and Eisenberg's 1963 findings, she believed that their findings about the efficacy of stimulant therapy for hyperactivity did not immediately change clinical practice. Her skepticism that stimulants could have a calming effect on children probably explains a great deal of the ambivalence that clinicians might have held toward this proposition:

I thought the findings were extremely curious, and took them with a grain of salt. I'm not an easy believer; I don't join the bandwagon very easily...Don and I discussed it and he also found it very interesting and curious. We started treating a few children clinically and were impressed. But we didn't quite buy it, so we [decided] to design a controlled study.⁸⁰

Klein's reticence to accept these original findings owed much to the paradoxical nature of giving children stimulants to calm them down.⁸¹ Up to that point, much of the work done in child psychopharmacology had been a direct translation from adults to children, as evidenced by the initial interest in the major and minor tranquilizers for hyperactive children. However, as the Kleins' follow-up studies confirmed Connors and Eisenberg's discoveries, "we started to work out of that disbelief."⁸²

⁷⁹ Klein, interview by Healy, 316.

⁸⁰ Ibid., 318.

⁸¹ The phenomenon on paradoxical drug effects is not limited solely to stimulant therapy for children. In some cases, the antihistamine Benadryl, known for its ability to cause drowsiness, excites or stimulates children. In addition, benzodiazepines have been known to produce aggression and irritability among a very small percentage of users taking the tranquilizers.

In 1966, Eisenberg aptly noted that children failing to respond to one form of treatment might respond to some other. Just as combinations of chlorpromazine and Ritalin did not work in all patients suffering from schizophrenia or massive depression, nor did one particular drug suit the needs of all children suffering from hyperkinesis. Perhaps most surprising, at least from the vantage of today's contemporary viewpoints that associate ADHD with Ritalin, is the fact that Eisenberg and Connors initially held a preference for dextroamphetamine over methylphenidate in the treatment of hyperkinetic children. Why? As Eisenberg noted, "our preference...is more a matter of familiarity with the first, of cost, and of greater experience with toxicity than a matter of demonstrated superiority."⁸³ At the same time, however, Eisenberg expressed concern about Dexedrine's anorectic effects on growing bodies. Despite the fact that the drug represented a cheaper alternative and had a longer record of use, Dexedrine's potential to cause weight loss led Eisenberg to return to Ritalin as the more viable of the two drugs.

Other researchers at the time concurred with Eisenberg's findings. In 1966, Dr. Anthony Sainz of Marcy State Hospital in New York insisted that drug therapy form the basis of treatment for hyperkinetic children, as "orthodox psychotherapeutic techniques are of value while the child is hyperkinetic."⁸⁴ Even among psychoanalytically oriented psychiatrists, Sainz argued that only until pharmacotherapy made the child "intellectually accessible" by overcoming his "foreshortened attention span" could behavioral therapies begin to work.⁸⁵ Echoing Eisenberg's recommendations, Sainz insisted that both

⁸² Klein, interview by Healy, 318.

⁸³ Eisenberg, "Management of the Hyperkinetic Child," 596.

⁸⁴ Anthony Sainz, "Hyperkinetic Disease of Children," *Diseases of the Nervous System* 27, suppl. 7 (July 1966): 50.

amphetamines and Ritalin should be used in all cases to treat hyperkinetic children.

Unlike Eisenberg, however, Sainz asserted that Ritalin should privileged be the drug of choice, given its few side effects, but he was acutely aware of its main disadvantage, its short duration of action, which generally lasted from one and a half to three hours, which posed some major logistical difficulties for giving the drug to children in the school setting. Almost prophetically, Sainz proffered a potential solution: “It would be a boon if the manufacturers of methylphenidate (Ritalin) would package it in a slow-release tablet form, because of the drug’s consistent action, freedom from undesirable side-effects, and lack of tolerance production.”⁸⁶

Etiology and Evidence-Based Treatment

One reason for psychopharmacology’s advance in the treatment of hyperkinesis involved the pragmatism of clinical researchers who privileged *how* stimulant therapies worked over *why* they worked. As Klein recollected of her own research,

The drug studies we did were atheoretical. We weren’t making any assumptions about the nature of the antecedents. We never assumed that medication efficacy proved that a disorder had a strictly biological origin. You could treat so-called psychological reactions with medication, and you could treat biological phenomena with environmental manipulation.⁸⁷

At the same time, however, psychiatrists were cognizant of the latter and attempted to grapple with issues of etiology and their relationship with pharmacotherapy. The attention paid by researchers to the relationship between causation and therapy counters historical interpretations that psychopharmacology’s dominance was due solely to the

⁸⁵ Sainz, “Hyperkinetic Disease of Children,” 50.

⁸⁶ Ibid. Ciba-Geigy (later Novartis) was not completely oblivious to these observations. During the 1990s, the firm released Ritalin in two new forms, Ritalin SR (sustained release) and Ritalin LA (long action), both of which would allow children to go an entire school day without the need for additional dosages of the drug.

⁸⁷ Klein, interview by Healy, 319.

convenience offered by medicating unruly children. While they may have been more attuned to the behavioral effects of drugs as a sign of their efficacy, psychiatrists made credible efforts to understand the disorder itself.

Returning to Lytton and Knobel's original 1959 study that put stimulant therapies back on the path to acceptance, both researchers attempted to explain why the drugs had worked in the first place. The question of whether brain damage of some sort was responsible for children's misbehavior was still a pertinent question at this time, and Lytton and Knobel observed how the "present wide acceptance of mood changing drugs" had intervened in the issue of whether hyperkinesis was psychodynamic or organic in origin. If the former, then the use of drugs merely altered behavior without offering true insights into what had caused hyperkinetic behavior in the first place; if the latter, then the indication of pharmacotherapy appeared no less valid than the use of antibiotics to fight bacterial infection. However, Lytton and Knobel tempered their enthusiasm for the effects of Ritalin by expressing their doubts about why the drug worked and its applicability for all hyperactive children. In the absence of a more concrete understanding of hyperkinesis, they concluded that a "syndromic approach" might be in order to clarify diagnoses, clinical judgments, and therapeutic procedures. Lytton and Knobel acknowledged a common occurrence of signs and symptoms in these children, but they also pointed out that a number of unknown factors regarding etiology still existed. The psychiatrists called for clearer definitions of the "hyperkinetic child."⁸⁸

In spite of these doubts, Knobel and Lytton privileged recent attempts to postulate biological explanations for children's behavioral problems, noting research that implicated the cortical system, limbic system, and frontal lobe of the brain as potential

⁸⁸ Lytton and Knobel, "Diagnosis and Treatment of Behavior Disorders," 334.

culprits, going even further than Tredgold to suggest that such dysfunction would not necessarily have any physical evidence, such as a lesion. Knobel and Lytton were aware of the historical dimensions of the disorder and pointed out that organic explanations were not novel in understanding behavior. They contended that a return to neurological considerations for child hyperactivity would shift understandings away from a purely psychogenic approach toward an “integrated neuropsychologic” point of view. In doing so, they followed the lead of Bellevue psychiatrist Laretta Bender, who had likewise observed in 1949 that, “a dynamic interrelation may describe the psychological problem but still doesn’t touch the cause.”⁸⁹ At the same time, however, Knobel and Lytton remained sensitive to the idea that interplay between the social, familial, and biological circumstances made it difficult to describe such a syndromic entity. Cortical damage in the brain could vary from child to child, suggesting the need for clinicians to remain aware of the individualized onset of hyperkinesis.

Accompanying the pragmatism that helped to solidify acceptance of stimulant therapies in the 1960s was a turn toward more rigorous methods for establishing the drugs’ efficacy. By the early 1960s, much of the literature concerning the diagnosis and treatment of hyperkinesis in children was still driven by case studies and qualitative methods of assessment. As such, it comes as little surprise that clinical researchers oriented toward quantitative measures were conflicted about the findings of their colleagues:

Methodologically, then, the field of such investigations on children is in a parlous and unsatisfactory state. This presents a dilemma for the reviewer. On the one hand, if one were to apply the most recourse standards of criticism, it would be perfectly permissible to discount many positive results and to come up with

⁸⁹ Laretta Bender, “Psychological Problems of Children with Organic Disease,” *American Journal of Orthopsychiatry* 19, no. 3 (July 1949): 404.

largely negative conclusions about direct drug efficacy. On the other hand, these drugs are being widely used, have been on demonstrable benefit when given in various treatment contexts, and do provide for the clinician symptomatic improvement in a large number of cases that come to his attention.⁹⁰

As Eisenberg recalled, about his own experiences with clinical research on hyperkinetic children, “The notion of evidence based psychiatry...wasn’t even thinkable then.

Experienced people who had seen many patients relied upon what they remembered of their cases (or, more accurately, on those of their patients that chose to stick with them for an idea of longitudinal course).⁹¹ Not only were follow-up studies still uncommon during the late 1950s, but the relatively stable demographics of the United States, in which doctors and patients were more stationary and informal follow-ups more prevalent, made more formal means of tracking unnecessary.

Compounding the problem was the fact that clinical research for hyperkinesis involved children, who required very different medical, legal, and ethical considerations than adults.⁹² As one psychiatrist inquired during the mid-1960s,

How can one measure the effects of a drug that acts upon the mind and the emotions of a child? Unlike adult patients, children rarely ask for symptomatic relief; they are given psychoactive drugs because others complain about their behavior. The drugs are given to alter behavior rather than subjective feelings. The evaluation of a drug effect, then, depends upon observed changes in behavior. In a residential treatment setting, members of the staff can observe the child’s behavior; with outpatients the physician must rely on his own observations and information from parents and school personnel.⁹³

⁹⁰ Grant, “Psychopharmacology in Childhood Emotional and Mental Disorders,” 628.

⁹¹ Eisenberg, interview by Healy.

⁹² As Susan Lederer has noted in her study of human medical experimentation, children historically have been among the most vulnerable populations for drug testing. See, Susan E. Lederer, *Subjected to Science: Human Experimentation in America before the Second World War* (Baltimore: Johns Hopkins University Press, 1995), esp. chap. 3.

⁹³ Joel Zrull et al., “An Evaluation of Methodology Used in the Study of Psychoactive Drugs for Children,” *Journal of the American Academy of Child Psychiatry* 5, no. 2 (April 1966): 284.

The problems of measuring the effectiveness of stimulants on hyperkinetic children were similar in many ways to establishing clearer definitions and diagnostic guidelines for the disorder itself.

Aside from the research on the effects of stimulants, one of the most important advances during the 1960s was the introduction of new methods, primarily observational scales and tests, to measure children's behavior and, more importantly, the effects of the drugs administered to the children. Among the most important innovators of these methods during the 1960s was Eisenberg's colleague, Keith Conners. One of Conners' first innovations, a scale to categorize the particular characteristics of children for studies, was derived from the textbook of Dr. Leo Kanner, former head of child psychiatry at Hopkins whose position Eisenberg had taken. As Conners recounted, "Kanner had a very careful observational approach. And, his textbook was very descriptive and he, in effect, had chapter headings for different kinds of kids. So, in effect, when we began these studies, I essentially took the chapter headings and made a rating scale out of them."⁹⁴ Other important means of testing that would figure prominently in Conners and Eisenberg's studies were continuous performance testing (CPT), psychological tests to measure the attention of children, as well as tests such as the Porteus Maze, a pencil and paper maze that testing learning ability of children taking the drugs.⁹⁵

These instruments for measuring the symptoms of hyperkinetic children and the effects of drug therapy were ostensibly an integral part of developing a more objective

⁹⁴ C. Keith Conners, interview by Burt Angrist, Oral Histories Collection, International Neuropsychopharmacology Archives, American College of Neuropsychopharmacology, Vanderbilt University, Nashville, TN.

⁹⁵ Ibid. See also, Eisenberg, interview by Healy.

approach toward diagnosing the disorder and gauging the effectiveness of drug therapy. While they did not completely quell some clinicians' concerns that children were not a part of the self-reporting process, they did contribute to a larger project of moving research away from individual observations toward more standardized methods of diagnosis and treatment in clinical research. The scales developed by Conners and others owed a great debt to the qualitative approaches of psychiatrists who had come before. "It was interesting that child psychiatry in those days was basically psychodynamic and there was no documentation, so when we did these drug trials we had no tradition to draw from on what to measure," noted Conners. Yet, he agreed that the experiential background of psychiatrists committed to individual observations, such as Kanner, who contributed greatly to psychopharmacologists' search for a quantitative approach.

Increasing Clinical Research and Federal Support

The initial progress of Conners, Eisenberg, and others began to intensify by the late 1960s when the federal government began to increase support for clinical research into the efficacy of stimulants.⁹⁶ Up to this point, the pharmaceutical industry had not financed much research in this area, presumably because the administration of psychotropic drugs to children on a large scale was still viewed as unethical.⁹⁷ Rather, many of the individual studies had been undertaken by psychiatrists and pediatricians as part of their academic appointments at research universities.⁹⁸ A key driver in research

⁹⁶ Ronald Lipman, "NIMH-PRB Support of Research in Minimal Brain Dysfunction in Children," in *Clinical Use of Stimulant Drugs in Children*, ed. C. Keith Conners (Amsterdam: Excerpta Medica, 1974): 204.

⁹⁷ See Dorothea M. Ross and Sheila A. Ross, *Hyperactivity: Research, Theory, and Action* (New York: John Wiley & Sons, 1973), 116.

⁹⁸ See "Statements of Dr. Thomas C. Points, Dr. Dorothy Dobbs, Dr. James Levine, Dr. Ronald Lipman, and Alvin Gottlieb," in House Special Studies Subcommittee, House Committee on Government

was NIMH, which awarded another major research grant in 1967 to study the effects of stimulants on behaviorally disturbed children to Conners, who had left Johns Hopkins for an appointment at Harvard Medical School and Massachusetts General Hospital.

As Ronald Lipman, then of the Psychopharmacology Research Branch of NIMH recounted, NIMH sought studies that could compare the relative efficacy of the stimulants, phenothiazines, antidepressants, and minor tranquilizers utilized in pediatric psychiatry.⁹⁹ While noting that some groundbreaking studies on amphetamines and methylphenidate had been done up to this point, Lipman also observed that the duration of these studies had often been quite short. Hence, the NIMH expressed a particular interest in obtaining more long-term efficacy studies, longer than eight weeks and perhaps up to several years in duration—studies that could be undertaken more easily with the financial support of the federal government. Regarding the differences between NIMH’s original 1958 grants and those awarded for stimulant research beginning in 1967, Lipman noted, “It is fair to say that while the stimulant drugs were mentioned in passing by [early researchers]...only a focused reading of the text would have elicited this information. In short, in 1958 and 1959 the interest in the stimulant drug treatment of hyperactive children was far from overwhelming.”¹⁰⁰

Between 1967 and 1970, the federal government, through NIMH, awarded nine grants totaling nearly \$3 million into the study of behavior modification through psychopharmacology. Conners’s study, which built on his earlier work with Eisenberg

Operations, *Federal Involvement in the Use of Behavior Modification Drugs on Grammar School Children of the Right to Privacy Inquiry*, 91st Cong., 2nd sess., 1970, 10. Hereafter cited as “*Federal Involvement*.”

⁹⁹ Lipman, “NIMH-PRB Support,” 208.

¹⁰⁰ Ibid., 202.

and focused on the further elucidation of the action of the stimulant drugs dextroamphetamine and methylphenidate on behavior, cortical processes, and cognitive function, had received almost \$450,000 in support from NIMH. Other notable recipients of federal funding included Donald Klein at Hillside Hospital in New York, Lawrence Greenberg at the Children's Hospital of the District of Columbia, Barbara Fish at the Children's Psychopharmacology Unit of New York University Medical Center, and Robert Sprague at the University of Illinois.¹⁰¹

The nine projects funded by NIMH between 1967 and 1970 may have been the primary beneficiaries of federal largess, but the late 1960s were characterized by a much wider research program on hyperkinesis in general. Other leading efforts at this time included work led by Gabrielle Weiss, John Werry, and Virginia Douglas, with much of the research being done at McGill University in Montreal.¹⁰² Leon Eisenberg continued to publish in the field, and he occasionally collaborated with Conners through the late 1960s. In summary, federal funding and the research findings made during the first half of the decade were crucial toward building momentum in stimulant therapy research that would continue through the rest of the decade and beyond.

The Decade of Public Discourse

If the 1960s can be characterized as a decade predominated by the clinical research that would establish stimulant therapy as the best vehicle for the treatment of hyperkinesis, then the 1970s were a decade for public debates. By all indications, the

¹⁰¹ See *Federal Involvement*, 4-6. For more information, see also Lipman, "NIMH-PRB Support," 202-213.

¹⁰² See, for example, John S. Werry, "Developmental Hyperactivity," *Pediatric Clinics of North America* 15, no. 3 (August 1968): 581-599; Weiss et al., "Studies on the Hyperactive Child"; and Gabrielle Weiss, "Treatment of Hyperactivity in Children," *Current Psychiatric Therapies* 10 (1970): 26-29.

treatment of children with powerful stimulants entered American mainstream consciousness in June 1970, when a front-page article in the *Washington Post* undoubtedly caught the public's eye. Revealing that 5 to 10 percent of the 62,000 children in the Omaha school district were consuming Ritalin, described as a "behavior modification drug" for "children identified by their teachers as 'hyper-active' and unmanageable to the point of disrupting regular classroom activity," the story unleashed a flurry of debate that would continue throughout the rest of the 1970s.¹⁰³

Though scholars such as Peter Conrad and Ilina Singh have acknowledged the importance of what became known as the "Omaha incident," they have often regarded it as another event in the growing use of Ritalin and amphetamines. However, a more detailed look at the case reveals that the use of drugs in Omaha was not some discontinuous event, but rather, an indication of the growing networks of medical professionals, educators, pharmaceutical firms, and regulators crucial to the increased prominence of hyperkinesis during the 1970s.

The *Washington Post* highlighted the case of Dr. Byron B. Oberst, an Omaha pediatrician instrumental in the introduction of a "behavior modification" drug program in his local school district. In December 1968, Oberst attended a seminar at Syracuse University that highlighted the problems of children who fit the description of the typical hyperkinetic patient. In addition to a viewing of the film *Why Billy Can't Learn*, Oberst recounted how a number of physicians at the seminar described the positive results they had received with such patients by prescribing Ritalin, Dexedrine, and other similar drugs.

¹⁰³ Robert Maynard, "Omaha Pupils Given 'Behavior' Drugs, *Washington Post*, June 29, 1970.

Following the conference, Oberst returned home to Omaha “with a new mission—to spread among his colleagues and school personnel this new knowledge about how to help with a problem” he claimed frustrated “eight to 10 percent” of the school population.¹⁰⁴ After physicians in the local community were “made aware of the new possibilities” by Oberst, they directed their attention toward school officials. Seminars were held in the school district, highlighted by viewings of *Why Billy Can’t Learn*. Eventually, a new organization, STAAR (Skills, Technique, Academic Accomplishment, and Remediation), was formed. Although teachers took the lead in identifying children and parents appropriate for STAAR, the program’s founders considered it an extracurricular undertaking not officially sanctioned by the school district. “The medical context of the program,” as Oberst explained, “is to keep medical problems in the hands of the family doctor. The medicine prescribed has to be in the control of the family physician.”¹⁰⁵

Although STAAR had originated out of the seminars hosted by the Omaha school district and had the cooperation of educational leaders, the assistant superintendent of the Omaha Public Schools had no firm idea of how many students were taking these drugs. Only the family physicians had such records, but experts such as Oberst agreed with estimates that 5 to 10 percent, or between 3,000 and 6,000, of Omaha’s public school children received stimulant therapy. How did the number become so large by 1970? Certainly the STAAR program and its organization by local medical and school authorities contributed. But a more precise answer suggests the collaborative nature of the program. As assistant superintendent Don Warner observed, “Ten years ago, there

¹⁰⁴ Maynard, “Omaha Pupils.”

¹⁰⁵ Ibid.

were a couple of hundred kids in the Omaha school district on Phenobarbital for restlessness associated with some disorder.” But, “after the pediatricians began spreading the word in December of 1968, more and more teachers began identifying students they felt would benefit.”¹⁰⁶

Even more telling about the role of increasing interactions between physicians, educators, pharmaceutical firms, and regulators are the arguments made by opponents of the STAAR program. The *Washington Post* observed that after the 1969-1970 school year began, “some cautions that educators expressed grew to sounds of quiet alarm.”¹⁰⁷ Receiving the most attention were concerns about the addictive potential of the stimulants and anecdotal evidence that children who were walking around with potentially dangerous drugs were trading the pills on the school grounds at lunch and recess.

The resistance that opponents to the STAAR program claimed to encounter was also revealing. As one concerned school official noted, “Look, if I bucked the medical profession in this town, I’d be dead, useless. They are pretty powerful around here.”¹⁰⁸ The fact that Omaha was a relatively small city (less than half a million people) with two large medical training institutions, the Nebraska University College of Medicine and Creighton University School of Medicine, might account for some of the medical hegemony opponents claimed to face. As one young physician interviewed by the *Washington Post* suggested, “This gives the medical profession quite a voice in the affairs of Omaha, and they use it.” Another local physician suggested another possibility, one hinting of collusion among interested parties: “Which also means that drug

¹⁰⁶ Maynard, “Omaha Pupils.”

¹⁰⁷ Ibid.

¹⁰⁸ Ibid.

companies which subsidize a lot of medical education and research, also have a great deal of power.” Regarding the role played by pharmaceutical firms, supporters of the STAAR program in Omaha were emphatic in their claims that drug company involvement was minimal. “Oh, they come around and address meetings on the subject, but it’s always pretty much of a soft sell. They mention the products and the claims, but they don’t push too hard in public, or too well, for that matter,” one Omaha school official claimed.¹⁰⁹ Whether or not drug firms were instrumental in the introduction of stimulant drug therapy into the school system, and there is little evidence available to suggest they were, their very involvement suggests that school districts’ embrace of stimulant therapies were not limited solely to concerned physicians.

As prominent as the Omaha case may have been, similar controversies could be found in other American cities. In November 1970, Isaiah E. Robinson, vice president of the New York City Board of Education, charged that pupils in his school district were receiving the same drugs as children in Omaha. Vowing to launch an investigation to find out, Robinson stated at the morning meeting of New York’s Fall Conference of Drug Abuse, “I found out recently that we are also using one of these drugs in the New York City schools....It’s a very dangerous precedent to start doping so-called hyperactive youngsters.”¹¹⁰ Officials in the New York school district were quick to dismiss Robinson’s charges. Board president Murray Bergstraum countered that he knew of no such program in New York, while Dr. Simon Silverman, a psychologist and head of the school system’s Bureau of Child Guidance, emphasized that medical personnel in the

¹⁰⁹ Maynard, “Omaha Pupils.”

¹¹⁰ C. Gerald Fraser, “Official is Disputed over Drugs He Says Pupils Get for Control,” *New York Times*, November 22, 1970.

schools could not prescribe drugs to pupils. Despite such bans on prescriptions by school doctors, Dr. Albert Hotkins, the Bureau of Child Guidance's chief psychiatrist, conceded that psychiatrists under his supervision had placed children on the medication after obtaining parental consent. Though not done indiscriminately, Hotkins insisted, he did note that a couple hundred children in New York had been prescribed Ritalin, Dexedrine, or other similar drugs in this manner. Of course, his estimate did not account for those children who might have received drug therapy for hyperkinesis through direct referrals from parents. Nevertheless, despite the insistence of New York officials in late 1970 that their school district had no program similar to the one in Omaha, increasing collaboration between physicians and the medical establishment, educators and school administrators, and parents was evident.

One final example also provides insight into how stimulant therapy was making inroads into American schools during the first half of the 1970s. In September 1975, the Youth Law Center in San Francisco filed a lawsuit on behalf of 17 children in Taft, California, alleging that school officials forced them to take Ritalin. The suit contended that some of the students prescribed the drug were not personally examined by a physician, and in one case, a student purportedly suffered from an epileptic seizure after taking the drug. According to the suit, school officials in the San Joaquin Valley oil town told parents that they either had to assent to demands that their children take the drug or students would be excluded from school entirely or placed in special classes for mentally retarded students. In addition to asking for \$425,000 in damages for each of the 17 plaintiffs, the suit asked the court to "order the practice halted on the ground it violates the constitutional and statutory rights of parents to send their children to the public

schools and to determine medical treatment without the interference of school authorities.”¹¹¹

As a result of the publicity that the Omaha incident received, Rep. Cornelius Gallagher, a New Jersey Democrat heading a study into alleged invasions of privacy for the House Government Operations Committee, ordered a preliminary inquiry into the matter immediately after the story broke in June 1970. At the same time, Dr. Charles C. Edwards, Commissioner of the FDA, also ordered an investigation.¹¹² In that hearing, it was revealed that between 100,000 and 200,000 American schoolchildren were taking behavior modification drugs for the treatment of hyperkinesis and MBD.¹¹³ However, despite Rep. Gallagher’s pronouncements about being “very disturbed” about what he perceived as the FDA’s “everything is hunky dory” attitude regarding amphetamine consumption by children, stimulant use by children in Omaha was not as pervasive as first believed.¹¹⁴ Reportage on the Omaha schools program was factually incorrect in some fundamental ways. Drugs were not part of any particular school program, but rather, were prescribed by some family physicians on an individual doctor-patient basis. Moreover, the number of children receiving prescriptions was lower than the 5-10 percent figure quoted in the *Washington Post* article; rather, that figure referred to the proportion of children *believed* to be in need of medical help for behavioral problems.¹¹⁵ While the Congressional hearings on Omaha had been convened in response to this

¹¹¹ “Suit Says School Forced Drug Use,” *New York Times*, September 10, 1975.

¹¹² “Use of Child Behavior Drugs Studied,” *New York Times*, June 30, 1970.

¹¹³ Testimony of Dr. Ronald Lipman, *Federal Involvement*, 16.

¹¹⁴ Robert C. Maynard, “The FDA Warns Against Uses of “Behavior” Amphetamines,” *Washington Post*, 30 September 1970.

¹¹⁵ Emphasis is mine.

alleged scandal, by their conclusion, they appeared to reinforce the legitimacy of hyperkinesis and its treatment with stimulants. Reflecting on the investigation several years later, Ronald Lipman, who had been a participant, remembered that the report

made it clear that (a) stimulant drugs had an important and legitimate use in the treatment of pre-adolescent hyperactive children, (b) stimulant drugs were not a chemical strait-jacket but allowed the child the choice of reacting in a more situationally appropriate manner vis-à-vis the organization of his motor behavior and attentional processes and, (c) no association between the legitimate medical use of the stimulants in childhood and drug abuse in adolescence had been demonstrated nor would one be anticipated since the ‘set and setting’ factors were so different and since hyperactive children were not reported to experience euphoria from the stimulants.”¹¹⁶

Cases such as those in Omaha, New York City, and even smaller towns such as Taft, California, suggest how drugs such as Ritalin and Dexedrine were beginning to find uses in American public schools during the late 1960s and early 1970s and how the clinical research of the 1960s was translating into actual patterns of use. While these cases may not tell us definitely about the characteristics of such use, they do suggest that the prescription of such drugs relied heavily on the interplay between medical, educational, and parental authorities, as well as political officials. Well-documented cases such as Omaha’s also suggest the active role pharmaceutical firms may have played in the introduction of these drugs. Just as important is the fact that by the early 1970s, such issues were beginning to elicit greater attention from the American public. The attention paid to such issues by media outlets had far-reaching consequences. Throughout the rest of the decade, public discourse on the prescription of these drugs for children would only continue to escalate. Whether as criticism or support for the pharmacotherapy of hyperactive children, these public debates on the matter further suggest how the use of

¹¹⁶ Lipman, “NIMH-PRB Support,” 210.

these medical technologies was increasingly framed not solely by the medical establishment, but also by its relationship with other parties.

One of the most vociferous critics of drug therapies for children during the 1970s was journalist Peter Schrag. In an editorial for the *New York Times* in 1975, Schrag used the Taft lawsuit as a platform to launch a broader attack against the use of drug therapies. Though his estimates of 500,000 to one million American children who were taking Ritalin and Dexedrine seem excessive, perhaps more accurate was his observation that this prescription of drugs was driven by a “proliferating establishment of physicians, lay organizations, drug companies, and federal agencies.” Yet, Schrag’s claims went much further than the acceptance of the hyperkinesis diagnosis and its treatment by these groups. Rather, he charged that with the emergence of this cabal,

A whole industry has been created—drugs, tests, clinics, special schools—and millions of children are labeled and segregated into categories that have no clear definition and for which there are no remedies. Yet the research that is supposed to validate those activities is generally inconclusive, frequently sloppy, and almost always misunderstood and misapplied.¹¹⁷

For critics such as Schrag, the movement of drug therapies for hyperkinesis into schools during the 1960s and 1970s represented collusion between interests to control children. Schrag’s sentiments would reach an even wider audience with the publication later that year of his book with Diane Divorky, *The Myth of the Hyperactive Child*.¹¹⁸ Schrag and Divorky popularized the notion that stimulants and other drugs served as “chemical straitjackets” to control unruly children. Yet Schrag’s suggestion that the research was

¹¹⁷ Peter Schrag, “Readin’, Writin’ (and Druggin’)” *New York Times*, 19 October 1975.

¹¹⁸ Peter Schrag and Diane Divorky, *The Myth of the Hyperactive Child and Other Means of Child Control* (New York: Pantheon, 1975).

lacking failed to appreciate the extent to which clinical researchers had gone to establish successfully the efficacy of stimulant therapy.¹¹⁹

Scholars during the 1970s also began to weigh in on the debates, expressing grave concerns of their own. Chief among these critics was the medical sociologist Peter Conrad, whose article “The Discovery of Hyperkinesis” extended the medicalization thesis to hyperkinetic children. He charged that the hyperkinesis diagnosis was part of a longstanding pattern to medicalize otherwise normal behavior. The “discovery” of hyperkinesis involved two major factors, according to Conrad. First, there was the willingness of medical professionals to reconceptualize misbehavior as a disorder in need of treatment. Joining physicians in this effort were parents’ groups whose acceptance of such a diagnosis absolved them of charges of bad parenting and alleviated their guilt. In short, this interplay involved the rise of expert control to explain and deal with children’s behavior, a development viewed by Conrad as nondemocratic and non-participatory. Second, there was the involvement of pharmaceutical firms who marketed their drugs, particularly Ritalin, for the newly identified problem of hyperkinesis. Accompanying industry efforts was government action that sanctioned the medication of children. The result, Conrad contended, was the depoliticization of deviant behavior in favor of its medicalization.

¹¹⁹ Critiques were not limited to journalists such as Schrag and Divorky, but included a number of prominent physicians as well. Pediatric allergist Benjamin Feingold was another well-known critic of drug therapies for children during this period. In his widely read book *Why Your Child is Hyperactive*, Feingold argued that hyperactivity was the result of allergic reactions children had to the additives commonly found in foods, such as dyes or colorings. See Benjamin Feingold, *Why Your Child is Hyperactive* (New York: Random House, 1975). Through a strict management of diets that included the exclusion of these toxins, Feingold contended, children’s behavior problems would begin to abate. Although popularity for the “Feingold diet” persists today in some quarters, researchers such as Connors responded almost immediately that his claims had not been supported by adequate research. See C. Keith Connors, *Food Additives and Hyperactive Children* (New York: Plenum, 1980).

The attacks of Schrag and other critics against child pharmacotherapy did not go unopposed. One rebuttal to the *Times* editorial by Jane K. Hochberg, director of special education for The Community School in Orange, New Jersey, is illustrative. Calling Schrag's words on the subject "dangerous and destructive," Hochberg distinguished between the abuse of illicit drugs and their medical uses to treat diagnoses such as hyperkinesis. She responded to Schrag's claims that the prescriptions of stimulants by physicians unnecessarily opened the doors to drug abuse among children:

That there is drug abuse in regard to treatment is lamentable as it is true, but to suggest that neurologists, pediatricians, psychologists, and learning specialists are dedicated to "control" these children with unethical and dangerous practices seems to be a reckless generalization.

There is much being done in this field of medicine and psycho-education that is positive and working. Certainly the medical profession must be more vigilant in *all* drug control. Writers, whose intentions may be humanitarian and noteworthy, must also be vigilant.¹²⁰

Amid the growing controversy, some columnists attempted to mediate the gap between polemicists, acknowledging that polarizing debates had "left parents and teachers thoroughly confused about how to recognize and deal with a hyperactive child."¹²¹ Such confusion was not surprising, given the cacophony of voices seeking to be heard.

The Coming of "Attention Deficit Disorder"

The 1960s represented the decisive decade for the establishment of stimulant drugs as the prevailing therapeutic regime for hyperkinesis. The advent of federal regulations for amphetamines and methylphenidate at the end of the decade proved an important turning point. In 1969, the federal government announced its intentions to

¹²⁰ Jane K. Hochberg, "To Help a Child," *New York Times*, November 5, 1975.

¹²¹ Jane Brody, "Personal Health," *New York Times*, December 1, 1976.

place methylphenidate under stricter controls that would constrain its prescription and indications. Following the completion of the Drug Efficacy Study and Implementation (DESI) and the passage of the Comprehensive Drug Abuse Prevention and Control Act of 1970 (Controlled Substances Act), amphetamines and methylphenidate were categorized as Schedule II drugs, substances with legitimate medical applications but also a high potential of abuse.¹²² Particularly affected was Ritalin, which, by the early 1970s, had emerged as the leading drug in the treatment of hyperkinesis. Under the new federal guidelines, Ritalin's indications were curtailed and limited to the treatment of narcolepsy and hyperkinetic children. If federal regulations considerably narrowed the legitimate uses for amphetamines and methylphenidate, they simultaneously legitimized its approved uses. Hyperkinesis was at the top of the list.

As for psychiatrists and pediatricians, the 1970s represented a period of consolidation of the diagnostic and therapeutic knowledge developed during the preceding decade. One such indication may be found in a large symposium entitled "Clinical Use of Stimulant Drugs in Children," held at Key Biscayne, Florida, in 1972. Chaired by Keith Conners, the conference included research luminaries from the 1950s and 1960s, including Jonathan Cole, Virginia Douglas, Rachel Klein, Donald Klein, J. Gordon Millichap, John Werry, and others.

With an emphasis on the pharmacotherapy of hyperkinetic children, much of the 1972 symposium was devoted to studies of individual drugs—methylphenidate, dextroamphetamine, levoamphetamine, and imipramine. Receiving the lion's share of

¹²² Originally, the Controlled Substances Act had designated Ritalin and several amphetamines as a Schedule III drug. However, amid reports about its abuse abroad, especially in Sweden, Congress instructed the Drug Enforcement Administration (DEA) to reclassify these drugs into the more stringent Schedule II category in 1971.

attention was a new drug, pemoline—a stimulant developed by Abbott Laboratories in the early 1970s and introduced as Cylert in 1975.¹²³ As Jonathan Cole remarked at the opening of the conference, “The area has also been favored by having some old drugs of clear effectiveness such as *d*-amphetamine and methylphenidate and cursed by the fact by the fact that both these drugs can be abused. . . . Hopefully, pemoline, one of the drugs to be discussed at this conference will alleviate one of the problems facing the drug therapy of hyperkinetic children by proving to be free of drug abuse liability.”¹²⁴ Pemoline’s debut was notable for two reasons. First, it demonstrates how, by the early 1970s, child psychiatry and pediatrics had come to take seriously the issue of the addiction potential of drugs used to treat hyperkinesis. If the backlash against amphetamines and methylphenidate triggered charges of “chemical straitjackets” among critics, among many psychiatrists, it stimulated a search for new drugs that would be free of these ill effects. Second, pemoline did not turn out to be the solution that optimistic psychiatrists such as Cole had hoped. Its market life after 1975 was marred by evidence that the drug caused hepatotoxicity; Cylert had been linked to 21 cases of liver failure, of which 13 resulted in liver replacement or death. The FDA finally withdrew it from the market in 2005.¹²⁵

If the search for new therapeutic technologies in the early 1970s demonstrated how clinical research in child psychiatry had strived to progress, albeit with mixed

¹²³ See John G. Page et al., “A Multi-Clinic Trial of Pemoline in Childhood Hyperkinesis, in Conners, *Clinical Use of Stimulant Drugs*, 98-124; Roscoe Dykman, Jeanette McGrew, and Peggy T. Ackerman, “A Double-Blind Clinical Study of Pemoline in Childhood Hyperkinesis,” in Conners, *Clinical Use of Stimulant Drugs*, 125-129; and C. Keith Conners, “The Effect of Pemoline and Dextroamphetamine on Evoked Potentials Under Two Conditions of Attention,” in Conners, *Clinical Use of Stimulant Drugs*, 165-178.

¹²⁴ Jonathan Cole, “Introduction,” in Conners, *Clinical Use of Stimulant Drugs*, xii.

¹²⁵ Miranda Hitti, “ADHD Drug Cylert Discontinued,” *WebMD Medical News*, March 25, 2005.

results, then there was also some continuity with the past. At the symposium, Cole referenced the 1958 NIMH conference that had helped set the stage for research efforts in the 1960s. Remembering that “at the time of the [1958] conference, there was essentially no research on drugs in children except for the relatively informal work done by researchers such as Laufer at the Emma Pendleton Bradley Home in Rhode Island,” Cole conceded that “a number of the methodological and philosophical problems discussed are still with us.”¹²⁶ However, he also observed the progress made in the years since, particularly the work of Leon Eisenberg and Keith Conners, whose drug studies in children he declared “the oldest and most productive one NIMH has supported.” More important, Cole concluded that the methodology in establishing the effects of stimulant therapy had improved immensely since that time.¹²⁷ If some methodological problems had remained after 14 years of research, progress had been sufficient enough for Cole and others to see how far child psychiatry had come. Implicit in his observation was the important role the federal government in the quest to diagnose and treat the psychiatric disorders of children.¹²⁸

Conclusion

The 1972 symposium on the clinical use of stimulant drugs in children was a harbinger of subsequent research efforts. On the one hand, psychiatric research continued to make strides in understanding the physiology of hyperkinetic disorder, the intricacies of drug action, and better modes of treatment. On the other, each new finding tended to complicate the situation further. While progress was certainly made, discoveries tended

¹²⁶ Cole, “Introduction,” xi.

¹²⁷ Ibid., x-xi.

¹²⁸ For a similar perspective, see Ronald S. Lipman, “NIMH-PRB,” 202-213.

to reinforce the adage that “the more one learns, the less he or she knows.” One superb case in point was the work of Judith Rapoport, a researcher with the NIMH’s Biological Psychiatry Branch, during the late 1970s. In 1978, Rapoport published a highly visible article in *Science* on her findings that stimulants, namely Dexedrine, had the same calming effect when administered to normal children as they did to hyperactive children.¹²⁹ If Rapoport’s research suggested the existence of a drug interaction unique to children resulted in physiological and behavioral changes, regardless of hyperkinetic symptoms, it raised more questions than it probably answered. Her research underscored the need for better measures of diagnosing children with hyperkinesis, lest all children be considered hyperkinetic mainly because they reacted positively to amphetamines.

While physicians, journalists, and activists contended with Rapoport’s finding, efforts were underway to revise the diagnostic category of hyperkinesis for the revision of the *DSM-II*, published in 1968. With the publication of the *DSM-III* in 1980, the new moniker of attention deficit disorder (ADD) officially replaced hyperkinetic syndrome as the new disorder.

¹²⁹ Judith Rapoport *et al.* “Dextroamphetamine: Cognitive and Behavioral Effects on Normal Prepubertal Boys,” *Science* 199 (February 3, 1978): 560-563. See also, Judith Rapoport, interview by David Healy, in *The Psychopharmacologists III*, 333-356.

Chapter 5

The Speed Years: Charting the Extramedical Uses of Psychostimulants during the Postwar Era

As physicians explored the applications of psychostimulants to combat the untoward effects of antipsychotics, relieve minor depression, and manage hyperkinesis in schoolchildren, extramedical consumption of the same drugs escalated dramatically.¹ In this chapter, I focus on this other side of psychostimulant drug use during the postwar era. While recreational consumption of amphetamines had existed from the very beginning, the years after World War II were marked by an unprecedented boom in their nonmedical use, culminating during the 1960s with the discernable formation of what Lester Grinspoon and Peter Hedblom termed “the speed culture.”² I contend that the consumption of stimulants is best understood in terms of multiple cultures, each with its own constituents, modes of use, and relationships with medical professionals, regulatory authorities, and cultural brokers. In this chapter, I consider four “amphetamine cultures” in particular: the “speed freaks” of the 1960s counterculture, diet pill consumers, truck drivers, and athletes.³

¹ The term “extramedical” refers specifically to use of pharmaceuticals outside the tightly controlled confines of the doctor-patient relationship, where a physician prescribes a drug to a patient, usually as a therapeutic intervention, and the patient complies with the physician’s orders. Hence, extramedical consumption may be the patently non-medical, illicit consumption of a drug. Conversely, it may also refer to the use of drugs by patients in a manner not necessarily prescribed by their physician, such as the overuse or abuse of prescription medications by patients.

² Grinspoon and Hedblom, *The Speed Culture*.

³ My selection of these four particular modes of psychostimulant consumption are meant to be exemplars of the different cultures that existed, demonstrating the different relationships possible between consumers, clinicians, pharmaceutical firms, and regulatory and enforcement authorities. But they are not

While these cultures may have had similarities, such as an emphasis on performance enhancement through stimulant use, they were quite distinct. I argue that the specificity of each form of consumption determined how medical and political authorities responded to it. As controls on the extramedical use of these drugs were tightened in the 1960s and 1970s, these drug cultures diverged, following different paths. Of particular concern to medical and political authorities was the consumption of stimulants by adolescents and young adults. In such cases, authorities focused their efforts on linking amphetamine abuse to high rates of crime and juvenile delinquency. In stamping out uses defined as patently non-medical and illicit, political leaders and medical authorities upheld a common understanding of the problem and worked together to address it. However, the quasi-medical consumption that flowed from legitimate medical applications, such as overuse of amphetamines prescribed to women as diet drugs, created a number of tensions between the various sides. Policymakers would call into question the prescribing patterns of physicians and marketing practices of pharmaceutical firms. In contrast to the agenda of political authorities, many patient-consumers would demand stimulants' continued availability on the medical market.

At the same time, I argue that it was necessary for physicians, particularly psychiatrists, to cultivate a new understanding of the dangers of stimulants. Historian Nicolas Rasmussen has documented how amphetamine consumption reached unprecedented levels by the 1960s, while also explaining some of the key scientific developments that suggested the drugs' potential for dependency.⁴ Less understood,

the only ones discernable. Nicolas Rasmussen, for example, has called attention to the use of amphetamines by American soldiers during the Vietnam War. See Rasmussen, *On Speed*, 190-193.

⁴ Nicolas Rasmussen, "America's First Amphetamine Epidemic."

however, is how clinician thinking and practices evolved to meet these concerns. After World War II, many medical professionals still held fast to the idea that psychostimulant drugs posed few hazards. Only during the 1960s did the profession openly reassess this position and, by the end of the decade, take a more cautious stance. This changing orientation would be an important driver in policymakers' efforts to impose tighter drug controls, an issue that I take up in the next chapter.

The Many Cultures of Speed

In their 1975 study of amphetamine consumption, Grinspoon and Hedblom articulated the many facets of the speed culture, especially the use of amphetamines by adolescents and young adults who sought the drugs for productivity, pleasure, or, often, both. The authors demarcated the boundaries of consumption in a comprehensive manner, and took pains to contextualize extramedical consumption within the broader drug culture, youth culture, and general countercultural movements of the 1960s and early 1970s. However, Grinspoon and Hedblom often failed to distinguish between users of stimulants and other popular drugs. One particular example of this gap was their conflation of the amphetamine and the LSD cultures. Another was their association of amphetamines with artistic and cultural leaders of the 1960s, unaware that many of them were stridently opposed to amphetamine consumption.⁵

"Speed Freaks vs. Acid Heads": Amphetamine Youth Culture

In their consideration of amphetamine use by adolescents and young adults, Grinspoon and Hedblom located the most visible part of the speed culture in the Haight-

⁵ See Grinspoon and Hedblom, *Speed Culture*, 96-111, for relevant examples. Subsequent considerations of this issue include, Courtwright, *Forces of Habit*, 78-84; Iversen, *Speed, Ecstasy, Ritalin*, 71-120; and Rasmussen, *On Speed*, 182-221.

Ashbury district of San Francisco.⁶ Given the visibility of Haight-Ashbury during the 1960s, this focus comes as little surprise. Indeed, a study on the social characteristics of speed users published in 1970 observed that of the few systematic studies done, all were from the San Francisco area and none contained a sample larger than 36 individuals.⁷ Nevertheless, a few generalizations could be, and often were, made about speed users. Speed was attractive mainly to young people in their teens and early twenties. One sample of amphetamine abusers admitted to Bellevue Psychiatric Hospital had a mean age of 24.8 years.⁸ Other studies referred to the drug's popularity with the "baby boom" generation.⁹

However, the use of amphetamines by young people was hardly a phenomenon born of the 1960s. In the late 1940s, amphetamines became an integral part of the final exam ritual, as college students turned to the drug to help them cram during all-night

⁶ For more on the history of the 1960s counterculture, see Timothy Miller, *The Hippies and American Values* (Knoxville: University of Tennessee Press, 1991); and Dominick Cavallo, *A Fiction of the Past: The Sixties in American History* (New York: St. Martin's Press, 1999). Todd Gitlin, *The Sixties: Years of Hope, Days of Rage*, rev. ed. (New York: Bantam Books, 1993) and Mark Kurlansky, *1968: The Year that Rocked the World* (New York: Ballantine Books, 2004) provide two popular accounts of the period. Also of note is Theodore Roszak's *The Making of a Counter Culture: Reflections on the Technocratic Society and Its Youthful Opposition* (1969; reprint, Berkeley: University of California Press, 1995), which provided a contemporary account of the 1960s youth culture and, in particular, its criticisms of science and technology.

Although I use the term "counterculture" as a shorthand to describe the hippie movement associated with Haight-Ashbury, I acknowledge historian John Morton Blum's observation that the 1960s counterculture was "never a single movement, [and] had a variety of expressions and variety of adherents." See Blum, *Years of Discord*, 273-274.

⁷ Carole Cox and Reginald G. Smart, "The Nature and Extent of Speed Use in North America," *Canadian Medical Association Journal* 102, no. 7 (April 11, 1970): 724-729.

⁸ Leon J. Hekimian and Samuel Gershon, "Characteristics of Drug Abusers Admitted to a Psychiatric Hospital," *Journal of the American Medical Association* 205, no. 3 (July 15, 1968): 125-130.

⁹ See James T. Carey and Jerry Mandel, "A San Francisco Bay Area 'Speed' Scene," *Journal of Health and Social Behavior* 9, no. 2 (June 1968): 164-174; and Fred Davis and Laura Munoz, "Heads and Freaks: Patterns and Meanings of Drug Use among Hippies," *Journal of Health and Social Behavior* 9, no. 2 (June 1968): 156-164.

study sessions.¹⁰ Two researchers corroborated these observations in a study of amphetamine abuse among medical students at the University of Oregon, where they found that just under half of the students surveyed had consumed amphetamines, with the majority of users taking them more than once. Even more striking was their finding that seven percent of these users had taken doses of 30 to 100 milligrams, exceeding the normal therapeutic dose of 5 to 12 milligrams of amphetamine per day.¹¹ By the 1960s, high school students began to rival college students in their consumption habits. A survey from 1968 found that 22 percent of juniors and seniors at a San Francisco high school had taken amphetamines orally once or twice, and that 75 percent of users had consumed the drugs three or more times.¹² These statistics suggest that the illicit consumption of amphetamines and other stimulants was growing on the West Coast in the 1960s. What they cannot reveal is how people experienced the drug culture. Historians have discussed the use of these drugs by thrill-seeking American youth, noting in particular that speed was often viewed antagonistically by many leaders and spokespersons of the hippie movement.¹³ The consumption of cannabis and LSD was congruous with hippie ideals of

¹⁰ John William Rawlin, "Street Level Abuse of Amphetamines," in *Amphetamine Abuse*, ed. J. Robert Russo (Springfield, IL: Charles C. Thomas, 1968): 51.

¹¹ Stanley N. Smith and Paul H. Blachly, "Amphetamine Usage by Medical Students," *Journal of Medical Education* 41, no. 2 (February 1966): 167-70.

¹² David E. Smith, "Speed Kills: Patterns of High Dose Methamphetamine Abuse," presentation at Current Problems of Drug Abuse, San Francisco, 1968, cited in Cox and Smart, "Speed Use in North America," 168. Despite studies focusing on the Bay Area, the use of amphetamines by young people was hardly a West Coast phenomenon. In a Toronto high school, 7.3 percent of all students between grades 7 and 13 had used some sort of stimulant drug during the previous six month period. See Cox and Smart, "Speed Use in North America," 170. Another sign that such drug use was increasing can be deduced from the Los Angeles Police Department's reports of the number of amphetamines seized by authorities. In 1955, the LAPD had seized 6,987 ampules of the drug, and by 1962, that number had escalated to 267,542 ampules seized. See Rawlin, "Abuse of Amphetamines," 57.

¹³ Rasmussen, *On Speed*, 183-189. Of particular note was the 1968 "Speed Kills" campaign, sponsored by the Southern California organization DoItNow. As part of the effort, recording artists such as

creativity and communalism, while the use of amphetamines by “speed freaks” threatened to upend them.¹⁴ As the famed poet Allan Ginsberg articulated in a 1965 interview with the Los Angeles *Free Press*, “Let’s issue a general declaration to all the underground community, *contra speedamos ex cathedra*. Speed is anti-social, paranoid making[;] it’s a drag, bad for your body, bad for your mind, generally speaking, in the long run uncreative.”¹⁵ In that interview, Ginsberg set LSD in sharp relief against amphetamines by highlighting the antisocial tendencies of the latter’s consumers. Similar views about the dangers of speed to the youth and counterculture of the 1960s were also expressed by Timothy Leary, the Beatles, Frank Zappa and the Mothers of Invention, and Donovan.¹⁶ As Canada’s Le Dain Commission, convened to investigate the legal status of cannabis, noted of amphetamines,

Frank Zappa and Grace Slick of the Jefferson Airplane recorded public service announcements for rock radio stations, admonishing listeners to avoid the dangers of speed.

¹⁴ For more on cannabis consumption during the 1960s, see Martin Booth, *Cannabis: A History* (New York: St. Martin’s Press, 2003), esp. chaps. 17-22; Leslie Iversen, *The Science of Marijuana* (Oxford: Oxford University Press, 2000); David Courtwright, *Forces of Habit*; David Musto, *The American Disease: Origins of Narcotic Control*, expanded ed. (1987; reprint, New Haven, CT: Yale University Press, 1999), esp. chap. 11; Richard Davenport-Hines, *The Pursuit of Oblivion: A Global History of Narcotics*, 1st American ed. (New York: W. W. Norton & Company, 2002), esp. chaps. 10-13.

¹⁵ Allen Ginsberg, interview with Art Kunkin, in Los Angeles *Free Press*, December 1965, reprinted in Art Wiener, ed., *Speed Hurts* (Amphetamine Research Project, sponsored by National Institute of Mental Health, 31 March 1969), 2. Interestingly, many of the arguments made against amphetamines on the grounds that the drug stifled creativity tended to overlook the utility of the drug by many users for boosting productivity. It should be noted that while Ginsberg emerged as a vociferous opponent of speed, his Beat generation counterpart Jack Kerouac was a notorious abuser of amphetamines. Other writers, such as Hunter S. Thompson, were also renowned for their association with the drug. See, in particular, Hunter S. Thompson, *Fear and Loathing on the Campaign Trail ’72* (1973; reprint, New York: Warner Books, 1983), 15-22, where Thompson details his use of amphetamine to support his productivity.

Ginsberg’s identification as a Beat Generation poet from the 1950s who spoke out against amphetamines is somewhat exceptional, even if his voice carried resonance with hippies a decade later. If one interprets the Beats and the hippies as two distinct countercultural movements, then the former tended to prize the intellectual rush and productivity conferred by drugs such as Benzedrine. The latter, on the other hand, valued the more spiritual experience offered by hallucinogenic drugs. See Rasmussen, *On Speed*, 94-99, 183-184.

¹⁶ Le Dain Commission of Inquiry Into the Non-Medical Use of Drugs, Interim Report (Ottawa: Government of Canada, 1970): 50. The Le Dain Commission was appointed by John Munro, Minister of

considerable opposition to such use of amphetamines has developed within the 'hip' community. The "speed trip" is in many respects the antithesis of the experience sought with the psychedelic drugs. Instead of the orientation towards the "consciousness expansion," personal insight, and aesthetic and religious awareness often attributed to the psychedelic drug experience by users, the speed phenomenon is usually characterized by action, power, arrogance and physical pleasure ("kicks"), and regularly leads to suspicion, paranoia, hostility and often aggression. In addition to these undesirable personality changes, which render "speed freaks" highly unpopular in the community, such individuals generally present a picture of chronic ill-health unparalleled among youthful drug users.¹⁷

The pharmacological properties of amphetamines, not to mention the visceral image of an addict injecting the drug, contrasted with the more tranquil, colorful experiences of marijuana that was smoked or acid that was ingested.

Less appreciated by historians are the ways that the amphetamine youth culture defined itself and was interpreted by opposing cultures. A September 1967 study revealed that one-third of 413 residents of the Haight-Ashbury district surveyed had, in fact, injected amphetamines at least once.¹⁸ If there was rancor over the use of speed by the leaders of the Haight-Ashbury scene and their counterparts elsewhere, how did the drug manage to become popular in the first place? One explanation was that the mainstream press had made the dangers of LSD and cannabis its primary targets, while ignoring the hazards associated with amphetamines. Police and narcotics officials were so concerned with seizing marijuana and acid that they tended to overlook the potential problems of amphetamine use. As one 17-year-old girl whose friends used speed observed, "Some

National Health and Welfare, in 1969 to investigate the extramedical use of cannabis in Canada. The committee was so named after its chairman Gerald Le Dain. Other members included Ian L Campbell, Heinz Lehman, Peter Stein, and Marie-Andrée Bertrand. Perhaps most famously, the commission heard the testimony of John Lennon and Yoko Ono, who referred to the untoward effects of speed. For more on the issue of cannabis in Canada, see Marcel Martel, *Not This Time: Canadians, Public Policy, and the Marijuana Question, 1961-1975* (Toronto: University of Toronto Press, 2006).

¹⁷ Le Dain Commission, 50.

¹⁸ Roger C. Smith, "U. S. Marijuana Legislation and the Creation of a Social Problem," *Journal of Psychedelic Drugs* 2, no. 1 (1968): 52.

police officers we interviewed said pot was deadly and addictive! When kids try it and see it's all a lie they figure the stuff about speed is false, too.”¹⁹ This undue emphasis elicited some concern in the medical press. In a study of adolescents who ran away to Haight-Ashbury during the “Summer of Love” in 1967, three researchers also suggested the misguided priorities of law enforcement when they observed that the “horrible reactions to marijuana predicted by various authorities were virtually never seen. The runaways generally took this to mean that all the widely advertised dangers of drugs were establishment lies. This further alienated them from the social structure and made them more willing to experiment with all sorts of chemicals.”²⁰ Chief among these substances were amphetamines. One of the ironies of the policymaking and enforcement surrounding illicit drugs during the 1960s is how laws, policies, and educational campaigns could work to encourage a shift away from the use of some drugs—cannabis and LSD—and toward others, such as speed, all by a matter of emphasis by authorities.²¹

Despite exhortations against the use of amphetamines by leaders of the counterculture, young people were, in fact, using speed. Within this broader culture of drug experimentation, there were opposing subcultures at play, particularly the “heads,” proponents of LSD and other hallucinogens, and the “freaks,” users of amphetamines. Caught amid the maelstrom of these conflicting drug subcultures were physicians such as

¹⁹ Wiener, *Speed Hurts*, 4.

²⁰ Joshua Kaufman, James R. Allen, and Louis Jolyon West, “Runaways, Hippies, and Marihuana,” *American Journal of Psychiatry* 126, no. 5 (November 1969): 719.

²¹ One such example of this policymaking is the “LSD Chromosome scare,” based on the research of Dr. Marion Cohen of the State University of New York at Buffalo that concluded that LSD use resulted in genetic damage to white blood cell chromosomes. This research, which was followed up with mixed results, was amplified in the mainstream media (for example, a story entitled “L.S.D.: Danger to Unborn Babies” in the September 1967 edition of *McCall's*) as part of a broader anti-LSD campaign. See Mariavittoria Mangini, “Treatment of Alcoholism using Psychedelic Drugs: A Review of the Program of Research,” *Journal of Psychoactive Drugs* 30, no. 4 (October-December 1998): 407.

David E. Smith, the founder and director of the Haight-Ashbury Free Clinic.²² In a 1969 commentary for *Clinical Pediatrics*, Smith emphasized these distinctions by drawing upon observations of his own clinic population. Of particular significance, the speed freak exhibited a personal philosophy that was the direct antithesis of the acid head's. Whereas the former sought a "flash" or thrill as part of the drug experience, the latter typically developed a complex set of motivations for his or her drug use, including introspective, pseudoreligious, and creative aspirations.²³ Based on a previous study that identified four sub-groups in the Haight-Ashbury community, the use of LSD and cannabis was associated with the group known as "the core": committed hippies with consistent philosophical systems identifiable by their consumption of drugs on social grounds (marijuana) and for mystical, creative reasons (LSD). Conversely, amphetamine was associated with "the sociopathic element," such as members of the Hell's Angels and Gypsy Jokers motorcycle gangs, "Negro militants," methamphetamine dealers, and criminals, as well as a "prepsychotic element" that included individuals "who could not make it" in mainstream society.²⁴ Particularly alarming to these researchers was the increasing association of amphetamine use with "the teenyboppers": the influx of teenagers into the Haight-Ashbury area that made up the fourth subgroup in question.

²² For more on the free clinic movement in 1960s America, see Gregory Weiss, *Grassroots Medicine: The Story of America's Free Health Clinics* (Lanham, MD.: Rowman & Littlefield, 2006). For more on history of the Haight-Ashbury Free Clinic, see David E. Smith and John Luce, *Love Needs Care: A History of San Francisco's Haight-Ashbury Free Medical Clinic and Its Pioneer Role in Treating Drug Abuse Problems* (Boston: Little, Brown, 1971).

²³ David E. Smith, "Speed Freaks vs. Acid Heads: Conflict between Drug Subcultures," *Clinical Pediatrics* 8, no. 4 (April 1969): 187. For more on the religious aspects of LSD consumption, see Robert C. Fuller, *Stairways to Heaven: Drugs in American Religious History* (Boulder, CO: Westview Press, 2000), chap. 3.

²⁴ The association of amphetamine use identified here with black militants by Smith is not corroborated in the black press. Anne Jessica Siegal's research (discussed below) found that the black press, particularly publications associated with the Black Panther Party, were intolerant of any drug use, especially amphetamines.

High school students described as going to Fort Lauderdale during their vacations to drink beer were now perceived by Haight-Ashbury medical authorities as coming to their neighborhood to “shoot speed.” Apparently, it was the new “in” thing to do.²⁵

Leadership of the Haight-Ashbury Free Clinic and its prominence within the hippie movement provided Smith with an exceptional vantage for discerning competing modes of recreational drug use. In a June 1967 article for *Look* highlighting the recent opening of the clinic, Smith emphasized the need to break through misconceptions and misinformation about drug use by hippies. “We can earn their respect only by telling them the truth and treating drugs as medical, more than police, problems,” he observed.²⁶ Toward these ends, Smith’s endeavors as a healer for the hippie community were accompanied by efforts to understand the pharmacological properties of the drugs. One such substance that took Haight-Ashbury by storm during the summer of 1967 was a combination hallucinogen-stimulant called Serenity, Tranquility, and Peace, or STP.²⁷ Distributed widely within the district, the drug proved disastrous for some users and vexing for medical professionals who treated them. The 20-milligram dose was unusually high, and its slow onset and long duration caused experimenters unfamiliar with its

²⁵ David E. Smith, “Speed Kills: Patterns of High-Dose Methamphetamine Use,” *The Bulletin* (6 June 1968): 23. Another example of this difference in opinion regarding amphetamines and LSD is suggested by Rasmussen, who noted that a 1967 conference organized by Smith and his colleagues at the University of California, San Francisco on “The Religious Use of Psychedelic Drugs” took a relatively understanding tone toward the theological and philosophical aspects of psychedelic drug consumption. A conference the following year, entitled “Speed Kills,” was far more strident in its criticism, devoting its program to amphetamine toxicology, amphetamine psychosis, and the violence and crime associated with users of speed. See Rasmussen, *On Speed*, 188-189.

²⁶ “Drugs – Uses and Abuses,” *Look*, 8 August 1967, 28.

²⁷ The drug in question was 2,5-Dimethoxy-4-methamphetamine, abbreviated as DOM. See Solomon H. Snyder, Louis Faillace, and Leo Hollister, “2,5-Dimethoxy-4-methyl-amphetamine (STP): A New Hallucinogenic Drug,” *Science* 158, no. 3801 (November 1967): 669-670; and Masamoto Fujimori and Harold E. Himwich, “Electroencephalographic Alerting Sites of d-Amphetamine and 2,5-Dimethoxy-4-methyl-amphetamine,” *Nature* 220, no. 5166 (November 1968): 491-494.

effects to re-dose, frequently leading to overdoses. Commenting on the drug's introduction to the Haight-Ashbury community that summer, Smith pointed to the importance of pharmacological knowledge in his practice, while complaining about the legal barriers he faced: "We found STP before it could spread, and could warn kids and doctors. But we are still far from an antidote."²⁸ In particular, Smith vented frustration with federal and state laws that inhibited testing of drugs to understand their effects, as he explained the "value of acting, rather than reacting to a problem."²⁹

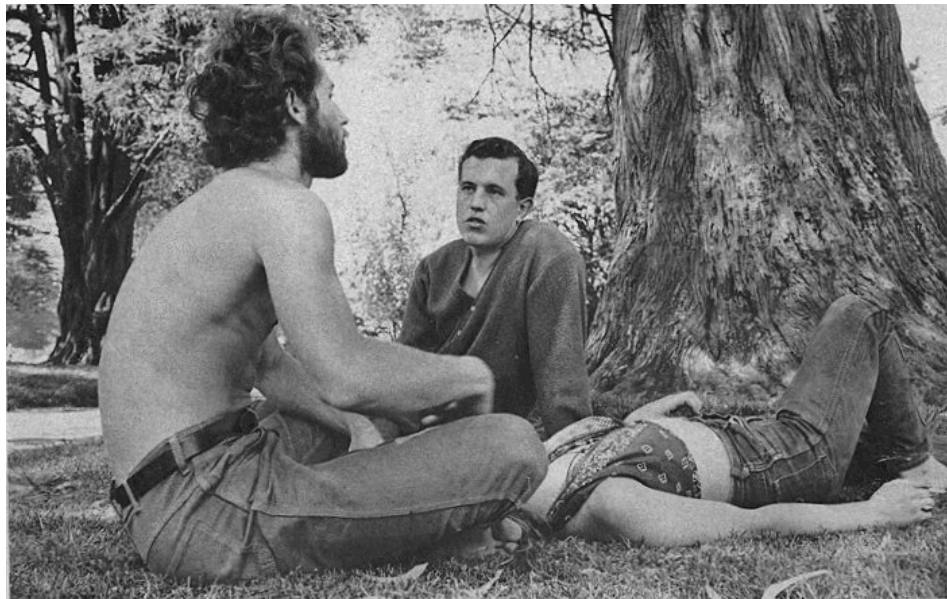


Figure 5.1 – Dr. David E. Smith of the Berkley Free Clinic (center) with two hippies in a San Francisco park in 1967. (Source: Wayne Miller for *Look*)

While Smith appeared to exhibit guarded tolerance for LSD (or at least demonstrated more sensitivity to users' rationales for "dropping acid"), he was less sympathetic toward speed. In 1969, he lent his talents and concern to a 17-minute

²⁸ "Drugs – Uses and Abuses," 28.

²⁹ Ibid.

documentary entitled *Speedscene: Problems of Amphetamine Abuse*.³⁰ The educational film included interviews with young hippies who described their initial experiences with speed as “groovy.” Their stories soon turned sinister with discussions of lost friends, resorting to prostitution, and stealing or forging scripts to obtain amphetamines. Accompanying firsthand accounts that luridly related speed’s horrors were discussions by physicians who brought a sense of medical urgency to the speed epidemic that afflicted Haight-Ashbury and other countercultural communities in the late 1960s.



Figure 5.2 – Dr. Smith stands outside Examination Room 2 of the Berkeley Free Clinic in a scene from the 1969 amphetamine abuse film *Speedscene* (Source: Dr. David E. Smith)

References to drugs in the “underground” or “alternative” press of the 1960s, particularly newspapers published in countercultural cities—New York, Berkeley, San Francisco, and the like—provide another dimension for understanding the peculiarities of

³⁰ Richard S. Scott, *Speedscene: Problems of Amphetamine Abuse*, 16 mm film, Los Angeles: Medi-Cine Productions, 1969.

this culture of amphetamine consumption. In her contemporaneous study of drug-related material in the underground press of the late 1960s, Anne Jessica Siegal noted how leading newspapers, such as the *East Village Other*, *Berkeley Barb*, and *San Francisco Oracle*, differentiated between the various drugs used by youth and other participants of the counterculture. Many of these publications viewed cannabis as harmless and often lobbied for its decriminalization, if not outright legalization. Likewise, countercultural newspapers and magazines opined that psychedelic drugs such as LSD did not appear to have any truly adverse effects and the decision to engage in their use was a personal one. But permissive outlooks on these substances contrasted sharply with the positions taken on amphetamines, as well as other “hard” drugs such as barbiturates and heroin. These drugs were viewed by the underground press as dangerous and to be avoided.³¹ One such example was the case of “Dr. Hip Pocrates,” a column written by physician Eugene Schoenfeld, published by the *Los Angeles Free Press* and *Berkeley Barb*, and syndicated in fifteen other publications. Over the course of several years, Schoenfeld repeatedly warned of the ill effects of amphetamines for both users and their unborn children. Such advice contrasted with the moderate stance he took on other drugs, particularly cannabis.

Despite the emphasis placed upon the “speed culture” developing on the West Coast during the 1960s, the youth drug culture was not confined to a single geographic area, nor was amphetamine the only drug of concern. By the late 1960s, Ritalin was implicated in a much broader problem of drug abuse in Sweden, which arguably had the highest incidence of stimulant abuse in the world, prompted partly by its

³¹ Anne Jessica Siegal, “An Analysis of the Frequency and Content of Drug Related Material Published in the Underground Press,” in William H. McGlothlin, *Amphetamines, Barbiturates, and Hallucinogens: An Analysis of Use, Distribution, and Control* (Washington, D.C.: U.S. Drug Enforcement Administration, 1973), D45-D46.

overprescription. Commenting on the fact that Sweden had between 10,000 and 12,000 stimulant addicts, more than any other country in Europe, a 1970 article in the *New York Times* drew comparisons between Sweden's drug problem and those afflicting New York City. The two most widely abused drugs were Preludin (phenmetrazine), legally sold in the United States as a diet drug, and Ritalin, then gaining currency as the front-line treatment for hyperkinesis in children.³² While the problems of stimulant abuse in Sweden might seem somewhat remote from the issue in the United States, I discuss later how the Swedish experience would inform both medical experts' opinions, as well as the positions that policymakers would take on drug regulation.

The Diet Pill Culture

One of the earliest uses for amphetamines discerned by medical professionals was their application for the treatment of obesity.³³ In 1938, two years after the introduction of oral Benzedrine to the market, Poul Bahnsen and his associates undertook a comparative study of 100 subjects receiving amphetamine versus an equal number of individuals who did not. They found that 19 people in the active drug group and one person in the control group reported a reduction in appetite.³⁴ The application of these initial findings began in earnest when the first study detailing the use of amphetamines in

³² Richard Severo, "Mainlining Amphetamines Rising Problem in Sweden," *New York Times*, 10 April 1970.

³³ For more on the history of obesity in the United States, see Deborah Levine, "Managing American Bodies: Diet, Nutrition, and Obesity in America, 1840-1920," (Ph.D. diss., Harvard University, 2008). For more on the history of diet pills, see Eric Colman, "Anorectics on Trial: A Half Century of Federal Regulation of Prescription Appetite Suppressants," *Annals of Internal Medicine* 143, no. 5 (September 6, 2005): 380-385. FDA historian John P. Swann has also explored the history of diet drugs in a recent series of presentations entitled "Rainbow Diet Pills in Medical Practice, Industry, and Regulation."

³⁴ Bahnsen, Jacobsen, and Thesleff, "The Subjective Effect of Beta-Phenylisopropylaminsulfate."

the clinical management of obesity was published the following year.³⁵ Within a decade, the use of amphetamines for weight management was studied under carefully controlled conditions when S. C. Harris, A. C. Ivy, and L. M. Searle found that seven obese patients lost more weight when administered amphetamine than when given placebo; however, the main cause of weight loss was attributed to the suppression of appetite rather than a higher activity level. This and other studies published during the late 1940s suggested that by reducing appetite, amphetamines might make it easier to adhere to a dietary regimen requiring less food consumption. Interest in the potential of amphetamines as weight loss drugs persisted among researchers. In the 1950s, a second series of publications indicated the potential of combination drug therapy, usually amphetamine and barbiturate, to manage the emotional extremes found in obese patients trying to lose weight.

Beginning in the early 1940s, physicians began to prescribe amphetamines on an off-label basis for patients seeking to lose weight. However, this particular application did not have the approval of the American Medical Association (AMA), and Smith, Kline & French (SKF) did not advertise this particular indication. Competitors soon stepped in with their own products, and the firm found itself defending its patents in court. In one such case, SKF sued the New Jersey firm Clark & Clark for its combination of amphetamine and thyroid hormone, which claimed to boost metabolism as it suppressed appetite.³⁶ According to Rasmussen's calculations, based on an examination of the

³⁵ P. Rosenberg, "Clinical Use of Benzedrine Sulfate (Amphetamine) in Obesity," *Medical World* 57 (1939): 646-659.

³⁶ The colorful pills marketed by Clark & Clark helped give rise to the term "rainbow pills" to describe diet drugs. For an example of how SKF later set its product apart by declaring it safer than competing amphetamine-thyroid combinations, see an advertisement in the May 19, 1949 issue of *JAMA*

relevant court records, production of amphetamine for civilian consumption was around 30 million tablets per month in 1945. Put another way, enough amphetamine was produced to provide half-a-million Americans with two tablets daily of the standard amphetamine dose for depression or weight loss.³⁷

While the courts upheld SKF's patents on oral amphetamine, the firm maintained its monopoly only until 1949. In the meantime, the AMA approved amphetamine for weight loss indications in 1947. Taking advantage of a growing market for this application and responding to research on the efficacy of amphetamine-barbiturate combinations, SKF debuted Dexamyl in 1950. With SKF's exclusivity over amphetamine lost by then, however, numerous other companies responded in kind with their own products to capture the weight loss market, initiating fierce competition in the 1950s. By 1962, the FDA suggested that enough amphetamine was being produced annually to manufacture 8 billion 10-milligram tablets, enough to supply every American with 43 doses per year.³⁸ There was little question that much of this supply was prescribed for weight loss. Historian John Swann has even suggested that weight loss clinics at this time were frequently subsidiaries of off-brand drug companies.³⁹

In April 1971, the New York State Commission on Revision of the Drug Laws held hearings to address the issue of amphetamines and, in particular, their prescription

(p. 73), where an image of a written prescription for "thyroid" is crossed out, and replaced by one for Benzedrine sulfate tablets instead.

³⁷ See Rasmussen, "America's First Amphetamine Epidemic," 975, for a fuller discussion.

³⁸ I take up this issue in greater detail in Chapter 6.

³⁹ John Swann, "Rainbow Diet Pills in Medical Practice, Industry, and Regulation, 1938 to 1968," paper presented at "Drug Trajectories: Historical Studies of Biology, Medicine, and Industry," Max Planck Institute for the History of Science, Berlin, 7-8 June 2002, cited in Rasmussen, "America's First Amphetamine Epidemic," 979n65.

for weight loss. Based on the findings of the New York State Narcotic Addict Control Commission, the commission's interest in amphetamines and their use in controlling obesity come as little surprise. "Pep pills," amphetamines, and amphetamine-like compounds were discovered to be the most abused drugs in the state, and more than half of the users in New York obtained these drugs without prescriptions. According to the Committee's findings, some 222,000 people within New York State regularly used diet pills, 19 percent of which were obtained illicitly. Even more revelatory were the findings of a survey of 4,000 women, published in the November 1971 issue of the *Ladies Home Journal*. The survey found that 17 percent of women reported having used diet pills, most containing amphetamines. Only relaxants (presumably minor tranquilizers), noncontrolled narcotics, and barbiturates were more widely used by American women.⁴⁰ The association of a diet pill culture with women can be confirmed with other findings from the survey, which noted that while women comprised 53 percent of the overall population in the United States in 1971, 80 percent diet pill consumers were women.⁴¹

Among experts concerned about the culture of diet pill use in the United States, many were quick to point out that the conceptions of female drug users rooted in images of singer Janis Joplin, dead of a heroin overdose at age 27, or other such stereotypes, needed a sharp reality check.⁴² For Carl Chambers and Dodi Schultz, the authors of the *Ladies Home Journal* study:

⁴⁰ Carl D. Chambers and Dodi Schultz, "Women and Drugs, A Startling Journal Survey: The Drugs Women Use," *Ladies Home Journal* (November 1971). reprinted in Senate Subcommittee to Investigate Juvenile Delinquency, Senate Committee on the Judiciary, *Diet Pill (Amphetamines) Traffic, Abuse, and Regulation*, 92nd Cong., 1st sess., 1972, 711. Hereafter cited as "Bayh Hearings."

⁴¹ Ibid. Likewise, 60 percent of pep pill users were reported to be women.

⁴² See Alice Echols, *Scars of Sweet Paradise: The Life and Times of Janis Joplin* (New York: Metropolitan, 1999).

The typical woman who uses drugs to cope with life is not a fast-living rock star, nor a Times Square prostitute, nor a devotee of the drop-out-and-turn-on philosophy of Dr. Timothy Leary. She is an adolescent, confused by the stresses of impending adulthood. She is a newlywed, by turns anxious and depressed by the strains of adjustment to a new relationship and new responsibilities. She is a once-busy housewife, her youngsters grown, who finds her days increasingly empty and her thoughts obsessed with the inexorable passing of the years. She is, in short, an average, middle-class American—one of the folks next door. She could even be you.⁴³

While observing that women were underrepresented among users of illicit drugs, smoking substantially less cannabis and injecting less heroin than men, their overrepresentation among users of prescription drugs caught the attention of the authors. Conceptualizing a culture of diet pill consumption means understanding the ways in which it was unique from the “speed culture” at the heart of Grinspoon and Hedblom’s inquiry. Most prominently, the use of diet pills was predicated on a system whose components included large pharmaceutical firms that manufactured and promoted the drugs, physicians willing to diagnose weight problems as a medical disorder in need of therapeutic intervention, and women who exercised economic agency as consumers of medical services.

In a follow-up article for *Ladies Home Journal* in December 1971, the authors told the story of Betty Ann, a housewife in a middle-class suburb of a major Southwest city. So Betty Ann and her husband Don could buy their first home, the couple agreed that she would return to work for a year or so in order to afford their mortgage payment without relying upon their hard earned savings. Betty Ann answered an ad seeking women to sell cosmetics door-to-door. The problem, the authors related, was that she had gained a little weight in the intervening years—“not much, but enough”—to make it difficult for Betty Ann to maximize her effectiveness in an appearance-conscious

⁴³ Chambers and Schultz, “Women and Drugs,” 705.

profession.⁴⁴ Recalling “glowing tales of a wonder-working specialist in fast weight loss,” she consulted a local physician who offered a system with no difficult diets, strenuous exercises, or complicated calorie counting; “his special medications did all the work.”⁴⁵ The medication in question turned out to be Dexedrine. After a few weeks, Betty Ann was able to lose the excess weight, obtain the job she sought, and delighted in impressing her husband and enjoying a newfound vitality.

In relating this story and others like them, many journalists outlined some prominent features of this mode of amphetamine consumption. An innocent housewife, a doctor promising miracle cures, and a wonder drug that facilitated a patient’s goals: all are common components of these stories. Sometimes other factors might be present, such as a husband who encouraged, either explicitly with a suggestion or indirectly with compliments or other reactions, his spouse to seek out “fat doctors.” Occasionally, such medical professionals might be juxtaposed with the woman’s family physician who either told her that the excess weight should not be a cause for concern or that diet modification and exercise would be optimal for losing weight. In some cases, these various elements produced stories of initial happiness that gave way to incredible pain and suffering for the unwitting patient, with the drugs and the doctor who prescribed them as the culprits.

However, the story of Betty Ann also suggests how diverse and irresolute the tales of women diet pill users could be. After achieving her weight reduction goal and successfully obtaining the temporary employment needed to help her and her husband afford their new home, Betty Ann still found herself using Dexedrine. But her daily dose

⁴⁴ Carl D. Chambers and Dodi Schultz, “Housewives and the Drug Habit: What They Take—and Why,” *Ladies Home Journal* (December 1971), reprinted in Bayh Hearings, 709.

⁴⁵ Ibid.

had increased to a total of 350 milligrams per day, consumed as twenty 15-milligram capsules and ten 5-milligram tablets (roughly equivalent to the caffeine in 70 cups of black coffee per day). While other narratives related ruined lives stemming from addiction and other untoward effects of amphetamine consumption, Betty Ann's had an uncertain resolution that realistically demonstrated how the benefits and problems of drug consumption could not be so easily disaggregated. In her case, Betty Ann had to contend with the dent that increasing doses of Dexedrine were putting in the household budget, but as she observed, "Don doesn't say much about the cost; we never really discuss it. He likes me thin. And *I* like me better this way, too. I feel pretty, and I'm not afraid of people the way I used to be."⁴⁶ Such a case demonstrates how, within a culture of diet pill use, it could be difficult to parse a choice to consume drugs freely with the possibility that dependence was driving such use.

The nature of such a complex culture can be explained further by the correspondence received by Senator Birch Bayh's (D-Indiana) office as a result of his Subcommittee's 1972 investigation into amphetamines and other diet pills for the treatment of obesity. In one letter to the senator, a Charleston man detailed his wife's experiences with a local "fat-doctor" over a 10-year period. In any given month, the man claimed, his wife took up to 460 pills, most of them amphetamines, plus injections of drugs that the doctor sold to her at his office, also amphetamines. In exchange for a loss of 30 pounds, the concerned husband claimed that his wife suffered from insomnia, hypertension, nose bleeds, and that, in general, "our life together is a wreck."⁴⁷

⁴⁶ Chambers and Schultz, "Housewives and the Drug Habit," 709. Emphasis is the cited article's.

⁴⁷ J. P. Straney, Hanahan, SC, to Birch Bayh, Washington, DC, February 8, 1972, in Bayh Hearings, 694-695.

In another case, a woman from Chicago recounted to Senator Bayh her own experiences using diet pills as a teenager. At the suggestion of her high school physical education teacher, the woman had gone to a “diet doctor” who gave her an “unlimited, easily refillable, and not too closely supervised” supply of amphetamines.⁴⁸ Told by her doctor to report any difficulties she might have had with the pills, the young lady confessed that she didn’t interpret the “great feeling” the drugs gave her as a “difficulty.” Conversely, the medication gave her such euphoria that she began taking double and then triple the recommended dosage. Only after running out of pills one day and having to experience withdrawal symptoms did the woman claim to understand what they had done to her: “My craving for a ‘diet’ pill was so strong I would have cut off my arm to get one, yet, because of this very craving, I was so terrified of what had happened to me that I never touched them again. This wasn’t easy, mind you: I *wanted* those pills. But fortunately I was simply too frightened to buy more.”⁴⁹ The threat of addiction was not the amphetamines’ only drawback. While the woman lost weight taking them, she gained it back, plus about 100 pounds more, after stopping. For her, only enrollment in a Weight Watchers program proved to be permanently effective.

Aside from stories of individual grief, pain, and suffering, even amidst the weight loss sought by consumers of amphetamine-containing diet drugs, individuals enmeshed within this culture identified other bothersome aspects of the system. One Minnesota woman claimed that doctors who failed to give patients adequate check-ups were to blame for the problems associated with diet drugs. She noted the case of a doctor in St.

⁴⁸ Bonnie Lovejoy, Chicago, to Birch Bayh, Washington, DC, February 7, 1972, in Bayh Hearings, 696.

⁴⁹ Ibid.

Paul who overcharged patients for unnecessary weekly visits and simply dispensed the pills sought.⁵⁰ In another case, a pharmacist charged that physicians dispensed pills in unnecessarily large quantities as a result of patient cajoling. He also alleged that such large prescriptions undermined pharmacies' profits by allowing patients to shop around for the best deals.⁵¹ Whether the blame rested with unscrupulous doctors, overzealous patients, or even profit-hungry pharmaceutical firms, it was clear to these complainants that diet drug abuse was fast becoming a medical and political problem.

Yet, not every person viewed the issue with such disdain. For some consumers, the possibility of increased regulation and controls threatened a viable means of achieving otherwise unobtainable goals. One woman recounted how, after a number of gimmicks and "crash" diets, she visited a "very reputable" physician in San Francisco. After a thorough examination and a determination that her overweight situation was not injurious to her health, the doctor prescribed some appetite suppressants. "I am both happier and healthier now," she remembered, "and I don't feel the medication has been at all dangerous to me. I can eat properly now, without the fear of seriously endangering my health with the crash diets I had tried in desperation."⁵² This patient, who continued to see her physician twice a month and received instructions on the proper use of her

⁵⁰ Patricia E. Goetz, Cottage Grove, MN, to Birch Bayh, Washington, DC, February 15, 1972, in Bayh Hearings, 696-697. John Swann has related the case of one physician who bypassed the pharmacist and opted for direct dispensing of the diet pills. He paid \$71 for 100,000 amphetamine-containing drugs, and proceeded to resell them for \$12,000. See Swann, "Rainbow Diet Pills in Medical Practice, Industry, and Regulation."

⁵¹ Morris Shuman, to Birch Bayh, Washington, DC, February 10, 1972, in Bayh Hearings, 695.

⁵² Melissa Boster Tidd, San Francisco, CA, to Birch Bayh, Washington, DC, March 27, 1972, in Bayh Hearings, 699.

medication, could “see no reason for these drugs to be restricted from the vast majority of responsible patients, in order to pay for the mistakes of a few.”⁵³

Others protested to Bayh on the grounds that control of amphetamine-containing diet drugs would constrain their options for weight loss. Where problems did exist, as the letter from Melissa Tidd of San Francisco suggests, these were often the mistakes of a few unscrupulous physicians or inattentive patients who jeopardized the interests of a responsible majority. Shirley Deator of Modoc, Indiana, typified such thinking when she related that it had been months since she had sought a prescription for amphetamines from her doctor: “Do you call that being hooked? They aren’t habit forming and I certainly want you making a lot of notice about their continuance, please!”⁵⁴

Such uncompromising testimonials about the safety of amphetamines should not obscure the fact that for many patients who appealed for their continued availability, these drugs were, in fact, a support. Though not necessarily proud of their reliance on them, some women were receptive to a little pharmacological help now and then to help them manage their weight. Deator explained that amphetamines were the “lesser of several evils that are a direct cause of overweight [sic]. A crutch, perhaps for a lot of people but if it helps some poor unhappy fat person to loose [sic] weight, why knock it?”⁵⁵ Pauline Miller, of Chicago, couched her reliance on the drug in terms of other habits. “I’m afraid I’m a person who needs a ‘crutch’ when I diet,” she confessed. “I have no other vices like a couple of martinis before dinner or smoking a pack or two a

⁵³ Tidd to Bayh, 699.

⁵⁴ Shirley Deator, Modoc, IN, to Birch Bayh, Washington, DC, March 21, 1972, in Bayh Hearings, 699.

⁵⁵ Ibid.

day....There are many elements on this earth that aren't very good for us but it is up to the individual to think for himself. I would hate to fill my diet requirements (dosage under 15 milligrams or whatever) at the friendly corner junk peddler who will definitely continue to flourish...for a lot of money and risk."⁵⁶ If confessing that their reliance on diet drugs containing Dexedrine, among other psychostimulants, was a sign of weakness in terms of weight maintenance, was it really any worse than regular consumption of alcohol or tobacco? For Miller, who argued that "I figure I'm ahead, a little bit of drinking, no smoking, no birth control pills, no saccharin, a moderate amount of sex," and others like her, the answer was "no."⁵⁷ Moreover, some of those opposed to more stringent regulations noted that the choice should be theirs to make, not the government's. Common to these letters is an assertion that authorities would do better to crack down on illegal drugs and their dealers, and leave these ordinary citizens (most of them women) and their trusted, respectable physicians alone.

These and other narratives suggest the panoply of experiences of women (and occasionally, men) who relied upon amphetamine-containing compounds. If the myth of the unwittingly addicted housewife who fell prey to dishonest doctors and drug firms failed to capture the reality of all women, neither can one say that users were completely free of physical, mental, and emotional side effects. Many patients confessed that the drugs had untoward effects on them or their loved ones, ranging from psychological dependence to a number of very real physical ailments. At the same time, some believed that physicians had taken advantage of them and their desire to lose weight and, as such,

⁵⁶ Pauline Miller, Chicago, to Birch Bayh, Washington, DC, February 8, 1972, in Bayh Hearings, 700.

⁵⁷ Ibid.

called on authorities to control the problem. Yet, their views were by no means unanimous. Many women reported how these drugs had helped them realize their goals, especially when other means of reducing weight had failed. Often they recounted that the physicians who had prescribed these drugs were reputable and ethical—far from the charlatan “fat doctors” portrayed in some publications. Another contingent noted that even if their reliance on drugs suggested weakness or a lack of willpower then they should be permitted the freedom of choice to seek their support. Finally, the story of Betty Ann also suggests that for some women, neither of these two positions—for and against stronger controls of drugs—seemed wholly satisfactory.

Diet pill users’ simultaneous identities as consumers and patients within the medical marketplace also characterized their culture of amphetamine consumption.⁵⁸ Historians have suggested that patients, particularly those seeking outpatient care, should also be interpreted as economic agents who consume products within a medical marketplace.⁵⁹ In contrast to the psychiatric applications of stimulants, the consumption of diet pills afforded patients an exceptional level of agency as consumers.⁶⁰

⁵⁸ One succinct definition of “consumerism” is offered by historian Gary Cross as the “belief that goods give meaning to individuals and their roles in society.” The scholarship on the postwar consumer society is vast, but two representative works are Gary Cross, *An All-Consuming Century: Why Commercialism Won in Modern America* (New York: Columbia University Press, 2000), which discusses consumerism as a political ideology (an “ism” in his words) that triumphed over competing modes of identity formation in twentieth-century America; and Lizabeth Cohen, *A Consumer’s Republic: The Politics of Mass Consumption in Postwar America* (New York: Alfred A. Knopf, 2003), which considers the political economy of postwar consumption.

⁵⁹ Relevant examples of the literature on patients as consumers in twentieth-century America include Metzl, *Prozac on the Couch*; Tone, *The Age of Anxiety*; Tomes, “The Great American Medical Show Revisited”; Jeremy A. Greene, “Releasing the Flood Waters: Diuril and the Reshaping of Hypertension,” *Bulletin of the History of Medicine* 79, no. 4 (Winter 2005): 749-794; Robert Bud, “From Germophobia to the Carefree Life and Back Again: The Lifecycle of the Antibiotic Brand,” in Tone and Watkins, *Medicating Modern America*, 17-41; Wendy Kline, “Please Include This in Your Book: Readers Respond to *Our Bodies, Ourselves*,” *Bulletin of the History of Medicine* 79, no. 1 (Spring 2005): 81-110; Andrea Tone, “Contraceptive Consumers: Gender and the Political Economy of Birth Control in the 1930s,” *Journal of Social History* 29, no. 3 (June 1996): 485-506; Andrea Tone, *Devices and Desires: A History of Contraceptives in America* (New York: Hill & Wang, 2001); Elizabeth Siegel Watkins, *On the*

How did the pharmaceutical firms manufacturing these drugs understand their utility and contribute to the diet pill culture? One indication may be gleaned from their advertisements. Until the 1970s, a steady stream of ads touting the benefits of amphetamines and other stimulants for weight reduction proliferated in medical journals. Moreover, a number of pharmaceutical firms introduced products with names suggesting their intended use. SKF introduced Eskatrol, a weight loss drug containing dextroamphetamine (precisely the same drug as firm's bestselling Dexedrine). Wallace Pharmaceuticals marketed Appetrol, a dextroamphetamine-meproamate combination, while Massengil promoted Obedrin, a methamphetamine-phenobarbital combination. In addition, a number of other amphetamine drugs were commonly advertised for weight management, including SKF's Dexedrine and Dexamyl, Robins's Ambar (methamphetamine-phenobarbital), and Strassenburgh's Biphetamine (amphetamine-

Pill: A Social History of Oral Contraceptives, 1950-1970 (Baltimore: Johns Hopkins University Press, 1998). Of particular note here is Greene, who observes how Merck, Sharp & Dohme, manufacturer of the antihypertensive Diuril, endeavored to position the drug within the American public's consciousness during the 1950s and 1960s in spite of prohibitions on direct-to-consumer advertising. Bud similarly suggests how branding of antibiotics coincided with patients' interest in precisely what drugs they were consuming. Kline observes how the patient-as-consumer identity could also be constructed in such a way to protest against the medical establishment rather than passively consume medical services. Along with Kline, Tone and Watkins also suggest the gender dimensions of the patient-as-consumer identity, which are also important when considering the consumption of diet pills and bariatric services by female patients.

⁶⁰ The focus on psychiatric authority is implicit in numerous historical studies, but exemplars within the literature include Porter, *Madness: A Brief History*; Lunbeck, *The Psychiatric Persuasion*; Braslow, *Mental Ills and Bodily Cures*; Pressman, *Last Resort*; and Eric J. Engstrom, Matthias M. Weber, and Paul Hoff, eds. *Knowledge and Power: Perspectives in the History of Psychiatry* (Berlin: Verlag für Wissenschaften und Bildung, 1999). Also important in this regard have been the works of social theorists and philosophers writing about psychiatry and power. See Michel Foucault, *Madness and Civilization*; Ian Hacking, *Rewriting the Soul: Multiple Personality and the Sciences of Memory* (Princeton, NJ: Princeton University Press, 1995); Nikolas Rose, *Inventing Our Selves: Psychology, Power, and Personhood* (New York: Cambridge University Press, 1996). While these works may have disparate interpretations on the nature of mental illness and the efficacy of psychiatric interventions, they all emphasize the role of professional authority and medical power within psychiatry.

At the same time, I do not discount the observations of Jonathan Metzl in *Prozac on the Couch* and Andrea Tone in *The Age of Anxiety* that outpatient psychiatry in postwar America should be interpreted partly as market-driven, and not merely responsive to the medical problems of patients. However, even such accounts have suggested that patient-as-consumer demands for tranquilizers and antidepressants were still mediated by professional authority of psychiatrists. I merely suggest that physician authority regarding the prescription of amphetamines for weight loss appears to have been less apparent.

dextroamphetamine). Also notable was the marketing of methamphetamine products for dietary purposes by Abbott as Desoxyn, Endo Products as Norodin, and McNeil as Syndrox. The amphetamine-like drug phenmetrazine, marketed by Geigy as Preludin, was another bestseller.

An analysis of ads confirms that the intended patients were women. For instance, SKF advertisements from 1967 for Dexamyl employed an art deco style, evocative of 1920s fashion, to tout the ability of women to “say ‘no thank you’ to the praline sundae” and a host of other tempting desserts and sweet concoctions (see Figure 5.3). Users of Dexamyl were depicted as beautiful and glamorous, enjoying active social lives. For these women, amphetamines provided or helped to maintain a sexually appealing appearance and a secure place in fashionable society. Conversely, advertisements such as that for Wallace’s Appetrol in 1967 occasionally depicted the targeted patient as an unhappy, morbidly obese woman who was either socially inept or unhappy (see Figure 5.4). The Appetrol ad paralleled the Volkswagen ads of the day by showing a dissatisfied, almost resigned housewife named Peg stuck in the sunroof of a Volkswagen Beetle. As further proof of her problems, she is described as a “round Peg in a square hole.” Other marketing tools took a similar approach, such as a 1956 ad for Ambar, which portrayed an overweight couple struggling to sit next to one another in a Victorian loveseat too small for them both.

*Thanks to
Dexamyl*
brand of
dextroamphetamine sulfate and amobarbital

she can say "No thank you"
to the praline sundae

'Dexamyl' does more than most anorectics. Because it not only curbs appetite but also lifts mood, 'Dexamyl' can give the discouraged dieter the confidence she needs to stay on her diet.

The mood lift with 'Dexamyl' can make the difference between the success or failure of her diet plan.

Formulas: Each 'Dexamyl' Spansule® Capsule (brand of sustained release capsule) No. 1 contains 10 mg. of Dexedrine® (brand of dextroamphetamine sulfate) and 1 gr. of amobarbital, derivative of barbituric acid [Warning, may be habit forming]. Each 'Dexamyl' Spansule Capsule No. 2 contains 15 mg. of Dexedrine (brand of dextroamphetamine sulfate) and 1½ gr. of amobarbital [Warning, may be habit forming].

Principal precautions and side effects: Use with caution in patients hypersensitive to sympathomimetics or barbiturates and in coronary or cardiovascular disease or severe hypertension. Insomnia, excitability and increased motor activity are infrequent and ordinarily mild.

Before prescribing, see SKF product Prescribing Information.
Smith Kline & French Laboratories 



Figure 5.3 – 1967 SKF advertisement for Dexamyl for weight loss. (Source: Journal unknown. The author thanks Wanda Husick for this image.)



© Wallace Pharmaceuticals

round Peg in a square hole

That's the least of her problems. Being a social misfit usually creates many more. Not to mention the medical implications of too much fat. If your overweight patients tend to become diet dropouts, we suggest a course of "APPETROL-S.R." (dextro-amphetamine sulfate 15 mg.

to curb appetite, plus meprobamate 300 mg. to counteract overstimulation). One sustained-release capsule each morning is usually enough to restrain even stubbornly fixed and flagrant overeating habits. If she can resist everything but

temptation, "APPETROL-S.R." may help strengthen her resolve. It might even bring back sensible dieting. A brief summary of prescribing information appears on the facing page.



WALLACE PHARMACEUTICALS

Figure 5.4 – 1967 Wallace advertisement for Appetrol. (Source: Journal unknown. The author thanks Wanda Husick for this image.)

Advertisements such as these took aim at a common problem to be solved and a solution to be obtained. Women who successfully controlled their weight through the use of amphetamines were viewed as young, beautiful, and socially active, whereas women in need of treatment were old, unattractive, unhappy housewives whose weight was perilously out of control. While the suggestion that women who relied upon these medications for successful treatment would become miraculously younger, richer, popular, and carefree may have been wishful thinking, the idea that such qualities were related to, if not predicated on, a woman's control of her weight is unmistakably apparent in these ads.

While women predominated in journal marketing, men were not altogether absent. Most advertisements featuring men attempted, in some form, to counter the idea of the "happy fat man," which a 1950 Benzedrine ad featured in *JAMA* explicitly called "a popular misconception." Echoing promotional efforts aimed at doctors who brought into popular perceptions of women, several ads addressed the issue of male sociability and the problem of the isolated, obese man. A series of for Preludin illustrates this point. One evokes a tone of isolation where an overweight golfer with his fellow players (see Figure 5.5).

multiple benefits for your obese patients...when you prescribe

PRELUDIN
(brand of phenmetrazine hydrochloride)

original silhouette hand cut by Mochi

specifically for weight reduction

PRELUDIN—not an amphetamine, but an oxazine
PRELUDIN does not overstimulate. "...in clinical use the side-effects of nervousness, hyperexcitability, euphoria, and insomnia are much less than with the amphetamine compounds and rarely cause difficulty."¹

PRELUDIN—potent anorexiant
"Its action as depressant of the appetite, is rapidly manifest and prolonged."²

PRELUDIN—provides gratifying weight loss
"The total amount of weight lost by each patient and the average weekly weight loss were five times as great with [PRELUDIN] as with the placebo."³

PRELUDIN—kind to the psyche
"While complaints of depression, weakness and fatigue are generally associated with a [severely] restricted caloric regimen, by contrast, patients in this study were cheerful, alert and energetic."⁴

GEIGY
ARDSLEY, N. Y.

(1) Council on Pharmacy and Chemistry, New and Nonofficial Remedies: J.A.M.A. 163:356 (Feb. 2) 1957. (2) Martel, A.; Canad. M.A.J. 76:117, 1957. (3) Reesler, G.; J.A.M.A. 186:135 (Sept. 14) 1957. (4) Nateson, A. L.; Am. Pract. & Digest Treat. 7:1456, 1956. PRELUDIN® (brand of phenmetrazine hydrochloride), Scored, square, pink tablets of 25 mg. Under license from C. H. Boehringer Sohn, Ingelheim.

Figure 5.5 – 1958 Geigy advertisement for Preludin. (Source: Journal unknown. The author thanks Wanda Husick for this image.)

Willpower is another theme common to advertisements featuring men. A 1957 ad for Ambar observed that the drug makes “him want to stop overeating,” a sentiment echoed in marketing by other companies. These ads illustrate, through attention to such issues as male sociability and failing willpower, that marketing aimed at men as consumers could be as gendered as those directed toward women.

Truck Drivers and Amphetamines

One often-overlooked culture of amphetamine consumption involved their use by long-haul truck drivers in the 1960s and early 1970s.⁶¹ Yet an abundance of evidence suggests how large a constituency they were. As Senator Harold E. Hughes (D-Iowa), Chairman of the Senate Subcommittee on Alcoholism and Narcotics and himself a former trucker, so eloquently observed:

The American public does not hear much from the truckdriver [sic]. They have heard about the high salaries, but they have not heard about the terrible human costs of those salaries. For to be a truckdriver in America today is, in some cases, to be a human self-destruct machine, albeit a well-paid one....

I have lived problems of both the trucker and the driver. I know what it is to be on the road for 15 hours straight without any rest. I know what it feels like to come home to your family after having been on the road for 2 or 3 days, and be too exhausted to sit down and talk. And I know what it feels like to operate on the thin edge between fatigue and anxiety.⁶²

Bridging this “thin edge” described by Hughes was the use of amphetamines by a growing number of truck drivers since the early 1950s. A study of 200 drivers, conducted in the late 1960s by a team of physicians led by Donald Dawson, revealed that 20 percent

⁶¹ For more on the history of trucking in America, with particular emphasis on the labor issues often intertwined with amphetamine consumption by truck drivers, see Shane Hamilton, *Trucking Country: The Road to America's Wal-Mart Economy* (Princeton, NJ: Princeton University Press, 2008). The early history of trucking regulation is also examined in William R. Childs, *Trucking and the Public Interest: The Emergence of Federal Regulation, 1914-1940* (Knoxville: University of Tennessee Press, 1985).

⁶² Statement of Senator Harold E. Hughes, Senate Subcommittee on Alcoholism and Narcotics, Senate Committee on Labor and Public Welfare, *Examination of Amphetamine Use among Truckdrivers*, Hearing before Subcommittee on Alcoholism and Narcotics, Committee on Labor and Public Welfare, U.S. Senate, 92nd Cong., 1st sess.1, 1971, 1. Hereafter cited as “*Use among Truckdrivers*.”

of truck drivers admitted to taking amphetamines to stay alert on the job.⁶³ Even more drivers, the authors speculated, might be consuming stimulants and not admitting it. To better understand drug use among truckers, the Center for Responsive Law undertook a study of how the Interstate Commerce Commission was addressing the problem. Approximately 1,300 truckers responded to a survey as part of the center's research, and 61 percent of respondents stated that the use of pep pills was widespread in their industry.⁶⁴

What led these drivers to rely so heavily upon stimulants? Famed consumer rights advocate Ralph Nader offered one explanation during the 1971 Senate hearings on the topic.⁶⁵ Quoting from the Interstate Commerce Commission Study, he observed:

A sense of necessity, certainly not a desire for "kicks," leads most drivers to reliance on drugs. A driver who reluctantly admits to having resorted to pills says, "With a family, and kids approaching college age, what else can you do?" To the drivers who must stay awake or lose their jobs, the pills are not only an economic necessity but a safety precaution as well....

Drugs substitute for sleep for the man caught in this ordeal. One driver reports that all kinds of people approach him for drugs, thinking that he, as a truck driver, must have a source of supply.⁶⁶

Compounding the problem of amphetamine consumption was the fact that cross-country truck driving was already a dangerous profession. In 1970, the National Safety Council reported 5,350 truck occupant fatalities and 12,000 fatal accidents involving trucks.

⁶³ Statement of Donald Dawson, *Use among Truckdrivers*, 69.

⁶⁴ Statement of Ralph Nader, *Use among Truckdrivers*, 2.

⁶⁵ Ralph Nader's concern for highway safety and consumer advocacy is best encapsulated in his 1965 book *Unsafe at Any Speed: The Designed-In Dangers of the American Automobile* (New York: Grossman, 1965), which criticized the automobile industry for its resistance to including safety features in the vehicles it produced. Also important in the context of highway safety was the passage of the 1966 Highway Safety Act, which created the National Highway Safety Bureau (later known as the National Highway Traffic Safety Administration), as well as the 1966 National Traffic and Motor Vehicle Safety Act, which mandated new standards for vehicles and roadways in order to make them safer.

⁶⁶ Statement of Ralph Nader, 3.

Likewise, the U.S. Department of Transportation's Bureau of Motor Carrier Safety revealed that 59.4 percent of truck driver fatalities in 1969 were among carriers involved in single-vehicle accidents.⁶⁷ In addition to the relative dangers of such driving were the conditions under which truckers tended to labor: inadequate safety features on their vehicles, the problem of incessant noise, and the intense scheduling of routes by their employers.

If the 1971 Senate hearings on amphetamine use by truck drivers provided invaluable insights into the important role played by these drugs, just as revealing were the labor conditions that accompanied and often facilitated amphetamine consumption. Lincoln Merrill, a driver from Winston-Salem, North Carolina, recounted that many truckers did not drive regular routes or schedules. In his case, he might get home from work at 8:00 in the evening, only to leave again by 6:00 the next morning. A ten-hour route might take him 12 to 14 hours to complete, only to have eight hours to rest. In many cases, he had as little as five to six hours off before returning to duty. To cope with such stresses, Merrill admitted that he regularly used amphetamines. Commenting more broadly on the situation, he observed that, "I think you can determine that possibly 90 percent of the drivers on long-line operations take pills. They don't take them just to get hopped up. They take them so they can drive without running over people on the road."⁶⁸

Another driver, Robert Lyons of Cincinnati, Ohio, elaborated on the dangers of such work and the labor conditions that compelled him and other drivers to resort to drug use. Ralph Nader recounted how Lyons had confessed to passing other vehicles regularly on double yellow lines and that "under no conditions" could he have made his routes

⁶⁷ Statement of Ralph Nader, 3.

⁶⁸ Statement of Lincoln Merrill, *Use among Truckdrivers*, 14.

from Cincinnati to Atlanta in the scheduled ten hours if he had been following the law.⁶⁹

Lyons elaborated that when driving in the State of Georgia, over 100 miles of road on a 481 mile route had a posted speed limit of 45 miles. “They give us 12 hours to make the run,” he explained. “Now, I can make the run. I have driven it in 8 hours and 36 minutes. We have drivers who do this all the time, not because, I don’t think, that they really want to.”⁷⁰ Rather, he charged that employers were responsible for imposing such strenuous schedules on their employees, as well as the accompanying consumption of stimulants to help them work. Lyons noted that he had been using amphetamines since 1954, and that they had damaged his life in many ways.

Mrs. James Root of Toledo, Ohio, and Mrs. Edward Hensley, of Roanoke, Virginia, both wives of truck drivers, provided their own perspective on their husband’s experiences. Both women observed how the transition from an ABA dispatch, where truckers went to one destination and then returned home, to an ABCD system, where drivers might go for up to three routes before returning home, had adversely impacted their husband’s lives and relationships. In addition to seeing their husbands less often and being unable to contact them easily, Root and Hensley also detailed that such a mode of work often meant an increased reliance upon drugs. As Hensley recounted:

I have followed behind my husband on many occasions in my car. If something happens[,] they cannot make the schedule[;] they are subject to a warning letter for delaying freight. According to the freight master agreement, with one warning letter they can be subject to discharge. So, what do they do? They take a pill and proceed on to their destination. Upon arriving they are given a hotel ticket and wait sometimes an hour or hour and twenty minutes for a hotel car. They have to eat and this leaves them 6 or 7 hours to sleep.

So, they take another pill to sleep or in most cases turn to alcohol. In a few hours they are back on the road again, and still many drivers complain they doze

⁶⁹ Statement of Ralph Nader, 5.

⁷⁰ Statement of Robert Lyons, *Use among Truckdrivers*, 15.

at the wheel. This goes on day after day, until soon they feel they cannot climb into the cab or truck without first taking their pill.⁷¹

Of particular concern for the wives of these truckers was how amphetamine use to stay awake while on the road was often compounded by the consumption of alcohol or other drugs to help their husbands relax or simply sleep when not on the job. The fear of alcoholism was a particular concern elicited by Root and Hensley. Amphetamines posed a grim conundrum for many truck drivers, forcing them to decide between falling asleep at the wheel or the prospect of substance abuse.

Amphetamine Use in Athletics

While many athletes have been content to perfect their bodies and abilities through healthy diets and extensive training, some have relied upon drugs to enhance their performance.⁷² “For 50 years, bike racers have been taking stimulants,” the French cyclist and five-time winner of the Tour de France, Jacques Anquetil, proclaimed in 1967. Uttered with remarkable candor at a time when his sport had been wracked by drug scandals, the French superstar elaborated, “Obviously, we can do without them in a race, but then we will pedal 15 miles an hour instead of 25. Since we are constantly asked to

⁷¹ Statement of Mrs. Edward Hensley, *Use among Truckdrivers*, 124.

⁷² For more on the history of sports in the postwar United States, see Randy Roberts and James S. Olsen, *Winning Is the Only Thing: Sports in America since 1945* (Baltimore: Johns Hopkins University Press, 1989), particularly chap. 10, where the authors take up the issues of personal identity and athletics and consider the issue of doping. Another good introduction to sporting in postwar America is Richard O. Davies, *America's Obsession: Sports and Society since 1945* (Fort Worth, TX.: Harcourt Brace College Publishers, 1994). For studies dealing specifically with the subject of doping, see John Hoberman, *Testosterone Dreams: Rejuvenation, Aphrodisia, Doping* (Berkeley: University of California Press, 2005); Daniel M. Rosen, *Dope: A History of Performance Enhancement in Sports from the Nineteenth Century to Today* (Westport, CT.: Praeger Publishers, 2008); Ivan Waddington, *Sport, Health, and Drugs: A Critical Sociological Perspective* (New York: E & FN Spon, 2000), esp. chaps. 6-8; and Jay Coakley and Robert Hughes, “Deviance in Sport,” in *Sport in Society: Issues and Controversies*, 5th ed., ed. Jay Coakley (St. Louis: Mosby, 1994).

go faster and to make even greater efforts, we are obliged to take stimulants.”⁷³ Whether his assertions that the decision to take stimulants rested with an unsatisfied public rather than the athletes who consumed them were accurate, there can be little doubt that Anquetil’s claims that athletes routinely used amphetamines as a means of improving their athletic performance were true.⁷⁴

Although their use was not as widespread as the anabolic steroids used by many athletes to increase muscle mass, the amphetamines had an appeal in certain sports. They were once described as a “triple threat.” Their qualities as appetite suppressants made them attractive to wrestlers, jockeys, boxers, and other athletes who would go on crash diets to “make weight.”⁷⁵ In addition, the drugs sped up the circulatory and respiratory systems, inducing a hyperactivity that can mask fatigue. Finally, they facilitated aggression. In high doses, amphetamines can help make individuals oblivious to pain and give them a sense of reckless abandon, invincibility, and anger—all psychological manifestations that some football players and other athletes in contact sports have considered desirable.

Amphetamines have been used on occasion throughout athletics, ranging from auto racing to yachting, but by the late 1970s, their widespread use had coalesced around several key sports. One such example, identified by Irving Dardik, chairman of the U.S.

⁷³ Jacques Anquetil, quoted in Bil Gilbert, “Something Extra on the Ball,” *Sports Illustrated* (June 30, 1969): 32.

⁷⁴ For a different perspective, see Hoberman, *Testosterone Dreams*, 32-33. Hoberman argues that the use of amphetamines in athletics during the 1940s and 1950s elicited concern on the grounds of health rather than the production of “inauthentic performances,” despite evidence that Benzedrine might produce higher scores on intelligence tests.

⁷⁵ The term “make weight” generally refers to meeting the maximum weight limits set by sporting authorities before an event. Certain sports, such as boxing, have weight classes that dictate the most an athlete may be able to weigh and still compete.

Olympic Committee's Sports Medicine Committee, was professional football. Similar sports requiring an "explosive effort" or "high-tension" types of athletics where endurance was a big factor, such as soccer, were also identified by Dardik as prone to amphetamine abuse.⁷⁶

Such experiences were corroborated by an anonymous member of the Washington Redskins who recounted,

Half an hour before we go onto the field...you see the guys who use amphetamines start to go to the water faucet....You definitely see personality changes. Some guys become very hard to talk to. I'm sure a lot depends on the different dosages, but some players are just impossible to communicate with. You see a glazed look in their eyes. You'll be talking to them, and they'll just walk away and start pounding on a locker or something.⁷⁷

If such a quote suggests that the main ends sought by amphetamine-using athletes was the inducement of aggression, or that its applications were limited to football, then consider the perspective of Johnny Bench, the Hall of Fame catcher for the Cincinnati Reds. In his autobiography, Bench recounted that when he and pitcher Gary Nolan were newcomers to major league baseball during the late 1960s, the use of Dexamyl and Darprisal (a proprietary form of amobarbital) were common. "The trainers had them and nobody thought twice about passing them out," Bench recalled. "A lot of pitchers popped. Gary would get a couple of daps in him and he'd start chirping away, just sitting in the dugout and talking a blue streak. He would get all googly and he wouldn't answer a question, just stay as high as he could and pitch his head off."⁷⁸ Such practices, Bench later noted in his autobiography, had changed within a decade, partly because of government

⁷⁶ Barry Lorge, "The Pressure is On to 'Pop,'" *Washington Post*, May 28, 1979.

⁷⁷ Ibid.

⁷⁸ Johnny Bench and William Brashler, *Catch You Later: The Autobiography of Johnny Bench* (New York: Harper & Row, 1979), 51.

regulations on amphetamines during the early 1970s, but also because players' attitudes about drugs and their effects had come a long way. In the end, he contended, "Pills were misused, and not just by pitchers, and for that I blame the trainers who dispensed them as much as the players who took them. In the pros, you look for any leg up, and a lot of guys, especially pitchers facing a tough start, thought daps and dexys were that edge."⁷⁹

In addition to their popularity in team sports, amphetamines also found a large following among track and field athletes during the 1960s and 1970s. A classic case was that of Jim Neidart, a Long Beach, California, athlete who was the leading high school shot-putter in the country in 1973. While in high school, he began using amphetamines to increase his performances, only to continue increasing his intake throughout an ill-fated college career. One notorious drug-induced rampage occurred following the 1976 Pacific-Eight Conference Championships at Berkeley. Neidart, representing UCLA at the meet, was favored to win the shot put competition, but he came in a disappointing second place. After the match, already fortified by a massive dose of amphetamines, he began consuming a large number of tranquilizers and alcohol to "unwind." And then, in the words of a witness, Neidart "just went berserk," as he dismantled his motel room and crashed through a plate glass window.⁸⁰

Making Sense of the Stimulant Cultures

In 1970, two surveys provided a snapshot of amphetamine consumption in the United States. The first of these, a national study conducted by the Social Research Group of George Washington University and the Institute for Research in Social Behavior in Berkeley, considered the use of psychotherapeutic drugs by Americans aged

⁷⁹ Bench and Brashler, *Catch You Later*, 80.

⁸⁰ Lorge, "Pressure is On."

18-74. The survey found that a total of 11.6 percent of the population had used amphetamines at some point in their lives. Furthermore, 3.7 percent of the population had used them for medical purposes at some point in the previous year, while 0.6 percent had taken them for non-medical reasons. The majority of medical users had consumed the drugs 30 times or less over a two month period. A survey of users in New York State, aged 14 and older, corroborated the findings of the national survey. It revealed that 13.6 percent of New Yorkers had used amphetamines at some time in the past. Within the past six months of the survey period, 3 percent of respondents acknowledged that they had used amphetamines for medical reasons, and 2.2 percent had used them for non-medical indications.⁸¹

That a considerable portion of the American population had experience with amphetamines is notable, but how might historians make sense of the disparate cultures of drug use presented here? While amphetamines were consumed by people for a variety of reasons, the idea of taking drugs to enhance performance provides common ground for understanding their extramedical use. Whether to permit college students to be more productive in studies, aid a housewife in losing a extra weight, keep a truck driver awake on a long and potentially perilous route, or to give an athlete a competitive advantage, stimulants often delivered on elusive promises of performance enhancement.

However, some of these applications were viewed as more legitimate than others. The potential for drugs to improve the performance of users' minds and bodies may have provided a universal experience for comprehending the overall *raison d'être* for the existence of the speed culture, but for medical experts, regulators, and enforcement officials, distinctions could, and needed to be, made between these various modes of use.

⁸¹ McGlothlin, *Amphetamines, Barbiturates, and Hallucinogens*, 10-11.

Why, for example, would authorities be more likely to penalize the recreational use of the drug by teenagers living in Haight-Ashbury than they were to arrest an Indiana housewife who may have relied on diet drugs to give her more “pep” while performing household tasks? The key to that issue, I contend, is the relationship between medical and extramedical use. Historian David Courtwright has illuminated how medical overprescription of a drug can inform its extramedical consumption through what he terms “parallel chain reactions.”⁸² Physicians prescribe allegedly safe drugs for vague symptoms, and a minority of patients continues taking them for a host of nontherapeutic reasons. Such patterns of use spread and eventually the drug becomes “democratized,” especially as pharmaceutical firms intensify their marketing and clinicians continue prescribing it.

This very issue came to the fore when the Select Committee on Crime in the House of Representatives held hearings on the matter in November 1969. These hearings were notable because they represented the first time legislators posed the question of whether the hazards of amphetamine misuse outweighed their medical benefits and if so, what measures were necessary to fix the problem. The Committee heard a wide array of testimony on the subject of stimulant abuse. Among the most outspoken experts seeking more stringent controls was physician Sidney Cohen, director of the Division of Narcotic Addiction and Drug Abuse for the National Institute of Mental Health (NIMH). Cohen differentiated among three types of misuse. Of least concern was the person who

⁸² Courtwright, *Forces of Habit*, 80-81. See also, David Musto, “International Traffic in Coca through the Early 20th Century,” *Drug and Alcohol Dependence* 49, no. 2 (January 1998): 145-156. Musto discusses what he terms “generational learning pattern,” a concept distinct from yet still related to the “parallel chain reactions” described by Courtwright. Musto describes how enthusiasm for new drugs develops, and then when social and psychological/physical problems associated with overuse emerge, enthusiasm for such drugs wanes.

infrequently took amphetamines to exceed his psychological limits, whether to stay awake, study for an exam, or to drive through the night. Somewhat more problematic was the person who took amphetamines without supervision, especially the person who self-medicated or increased his or her intake to exceed prescribed amounts, such as an obese patient who continued to take drugs after attempts to lose weight had been abandoned. But both of these types of extramedical use paled in comparison, Cohen reasoned, to the problem of the “speed freak” who swallowed handfuls of amphetamine tablets at a time, snorted amphetamine powder, or injected mass quantities of the drug directly. The amphetamine abuser seeking a euphoric high from the drugs, and often finding instead panic and paranoid states, malnutrition, nervous breakdowns, and unexpected infections, were of greatest concern to experts such as Cohen.⁸³ However, in differentiating between these forms of extramedical consuming and the degree of danger associated with each, physicians first had to establish the psychostimulants were, in fact, hazardous.

Pondering Psychostimulant Addiction

Previous chapters have documented the enthusiasm of clinicians over psychostimulants. But in parallel with such interest in the therapeutic potential of these drugs was a growing concern about their potential for addiction.⁸⁴ The late 1940s and

⁸³ Statement of Sidney Cohen, House Select Committee on Crime, *Crime in America—Why 8 Billion Amphetamines?* 91st Cong., 1st sess., 1969, 2-36. Hereafter cited as “*Crime in America*.”

⁸⁴ Historical studies that have considered the various facets of substance abuse and addiction include Stephen R. Kandall, *Substance and Shadow: Women and Addiction in the United States* (1996; reprint, Cambridge, MA: Harvard University Press, 1999); David T. Courtwright, *Dark Paradise: A History of Opiate Addiction in America*, enlarged ed. (Cambridge, MA: Harvard University Press, 2001); Sarah W. Tracy, *Alcoholism in America: From Reconstruction to Prohibition* (Baltimore: Johns Hopkins University Press, 2005); Caroline Jean Acker, *Creating the American Junkie: Addiction Research in the Classic Era of Narcotic Control* (Baltimore: Johns Hopkins University Press, 2002); Allan Brandt, *The Cigarette Century: The Rise, Fall, and Deadly Persistence of the Product that Defined America* (New York: Basic Books, 2007); Musto, *The American Disease*; Courtwright, *Forces of Habit*; Tracy and Acker, *Altering American Consciousness*; Joseph Gabriel, “Gods and Monsters: Drugs, Addiction, and the Origins of Narcotic Control in the Nineteenth-Century Urban North” (Ph.D. diss., Rutgers University, 2006); Roy

1950s may be characterized as a time when physicians were excited about the potential for amphetamines in medical practice. Nascent concerns voiced during these years about amphetamines' potential dangers existed in the shadows of this more dominant narrative of therapeutic receptivity. During the 1960s, a reversal began as doctors reassessed the impact psychostimulants were having on American society.

Nicolas Rasmussen has implicated both the pharmaceutical industry and the medical profession for escalating patterns of consumption since the Benzedrine inhaler was brought to market in 1933. During the drug's first decade on the market, SKF sought new indications for its amphetamine products, facilitating their prescription for narcolepsy, postencephalitic Parkinsonism, and especially mild depression. Off-label uses of the drug for dietary purposes also began to surface in the early 1940s. Also important had been the military's use of the drug during World War II. The sum effect was that by 1945, a million civilians were consuming the drug either for psychiatric or weight loss purposes, and an additional 16 million American military personnel had been exposed to the drug during the war. This scale of use was accompanied by a medical and legal environment that held the drugs to be relatively safe, thus encouraging their extramedical consumption.

Porter and Mikuláš Teich, eds. *Drugs and Narcotics in History* (New York: Cambridge University Press, 1995); Davenport-Hines, *The Pursuit of Oblivion*; Jill Jonnes, *Hep-Cats, Narcs, and Pipe Dreams: A History of America's Romance with Illegal Drugs* (1996; reprint, Baltimore: Johns Hopkins University Press, 1999); and Joseph F. Spillane, *Cocaine: From Medical Marvel to Modern Menace in the United States, 1884-1920* (Baltimore: Johns Hopkins University Press, 2000).

For scholarship on dependency on psychotropic pharmaceutical medications specifically, see Tone, *The Age of Anxiety*, particularly chaps. 7-9; Herzberg, *Happy Pills in America*, particularly chaps. 3 and 4; Susan Speaker, "From 'Happiness Pills' to 'National Nightmare': Changing Cultural Assessment of the Minor Tranquilizers in America, 1955-1980," *Journal of the History of Medicine and Allied Sciences* 52, no. 3 (July 1997): 338-376; Rasmussen, "America's First Amphetamine Epidemic"; and Weiss, "No One Listened to Imipramine."

Between 1945 and 1960, Rasmussen contends that rivalries between SKF and its competitors created an innovative and aggressive market to expand amphetamine consumption. One case in point was the introduction of Dexamyl, marketed for a wide array of applications, but especially as a diet drug and mood energizer. Competitors' "me, too" drugs also played an important role in this trend.⁸⁵ As I have already noted, amphetamine consumption in the United States numbered in the millions of users consuming billions of tablets by the early 1960s.⁸⁶

Rasmussen's case for the escalating consumption of amphetamines by Americans is strong, as are his arguments regarding the role played by the pharmaceutical industry and medical establishment. But what of stimulant *addiction*? Here, the matter comes down to the physical and psychological effects that the substances had on users' bodies and minds. Prior to the mid-twentieth century, drug addiction had largely been understood in terms of an opiate model that privileged physical dependency and acute physiological effects that accompanied withdrawal from the drug. A shift was made toward a new psychosocial model during the 1950s, led particularly by the World Health Organization (WHO). This new model of "drug dependency" considered both physical and psychological compulsions toward use of a drug and an erosion of everyday life functions that ensued as a result. The broader interpretation of drug addiction resulted in the reconceptualization of drugs that had been formerly considered "habituating" but not "addicting." Caffeine provides an excellent case in point. For much of its history, the

⁸⁵ "Me, too" drugs are those pharmaceuticals that have essentially the same chemical formulation and identical physiological action on the user. Frequently, they are understood as products that imitate and compete against the original proprietary drug (i.e. SKF's Benzedrine or Ciba's Ritalin).

⁸⁶ Rasmussen, "America's First Amphetamine Epidemic." See also, Rasmussen, *On Speed*, chs. 4-7. Rasmussen's periodization of amphetamine consumption is instructive: the years 1929 to 1945 are termed "origins of the epidemic"; 1945-1960 are considered "growth of the epidemic"; the 1960s are interpreted as the "epidemic's crisis."

drug had been considered habituating, but not necessarily addicting. When amphetamines arrived on the scene, they were compared to caffeine as habit-forming, but not necessarily addicting. So, too, was Ritalin after its introduction in 1955.⁸⁷

Rasmussen observes that scientific research conducted by British medical researchers during the early 1960s began to establish the potential of amphetamines, particularly Dexamyl, to induce dependency in users.⁸⁸ He has contended that on the basis of these studies, between 2.2 to 3.3 percent of all patients receiving amphetamines were addicted to them. In a review of the historical scholarship on addiction, Howard Kushner has called attention to the importance of certain biological realities in comprehending the history of addiction. Kushner does not necessarily condemn history that has considered social, political, and cultural factors in explaining addiction, but he does suggest a need for historians to consider the contemporary scientific findings in their attempts to understand the past.⁸⁹ Where psychostimulants are concerned, Iverson's synthesis of the current biological research suggests that the drugs' potential for addiction has been a very complex issue, and while some users may become dependent, not all

⁸⁷ Council on Drugs, "Methylphenidate Hydrochloride," 1479.

⁸⁸ See L. G. Kiloh and S. Brandon, "Habituation and Addiction to Amphetamines," *British Medical Journal* 2, no. 5296 (July 7, 1962): 40-43; and C. W. M. Wilson and S. Beacon, "An Investigation into the Habituating Properties of an Amphetamine-Barbiturate Mixture," *British Journal of Addiction* 60 (1964): 81-92. The implication of Dexamyl as a drug of dependency is complicated somewhat by the combination's inclusion of amobarbital, whose physical and psychological dependency were somewhat better understood.

Rasmussen astutely observes that one particular reason British researchers were at the forefront of scientific research into the habituating properties of psychostimulants may have to do with the fact that the United Kingdom's National Health System allowed for comprehensive prescription management and correlation of physicians with the base populations they served. In the United States, the lack of centralized institutions made it more difficult to track basic trends, even the number of drug consumers. Retail prescription audits, which I discuss in Chapter 6, were less accurate and complicated by the fact that amphetamines, particularly as diet drugs, were often dispensed directly by physicians rather than pharmacies. See Rasmussen, "America's First Amphetamine Epidemic," 977.

⁸⁹ Howard Kushner, "Taking Biology Seriously: The Next Task for Historians of Addiction?" *Bulletin of the History of Medicine* 80, no. 1 (Spring 2006): 115-143. Kushner concludes that addiction researchers must likewise acknowledge and engage the findings of historians.

necessarily do. Basing his conclusions on the scientific research, he has cautioned against conflating the potential for dependency with the overall danger of the drugs.⁹⁰

Growing Concern by Physicians

The recreational abuse of amphetamines between the 1930s and 1950s has been well documented by historians. Less understood, however, is how clinicians reacted to recreational practices. I argue that during the immediate postwar period, while physicians occasionally commented on problems of addiction, they had yet to form a consensus on the extent of the problem. Many physicians, in fact, downplayed amphetamines' potential for abuse. Indicative of such views were the observations of psychiatrist Peter Hobart Knapp, who published a detailed study on amphetamine and addiction in 1952.

Knapp acknowledged the euphoric sensations that Benzedrine induced in its users, ranging from a feeling of increased confidence and decisiveness to a "warm glow" interpreted as elation in many users. The euphoria experienced when taking the drug often had consequences, though. "Regardless of its exact effect, amphetamine is, for most people, pleasant," Knapp observed. "Logically, *habit-forming qualities* appeared as a danger to early workers. [But a] mass peril has never materialized."⁹¹ The pharmacological properties of Benzedrine were of interest to psychiatrists, such as the drug's ability to produce energetic wakefulness accompanied by increased verbal and motor activity, elevation of mood, and specific applications for the treatment of narcolepsy. But Knapp could not overlook another use for amphetamines—the "vague yearnings of unregimented and uncounted individuals in search of more 'pep'" that led

⁹⁰ Iversen, *Speed, Ecstasy, Ritalin*, chaps. 5 and 7.

⁹¹ Peter Hobart Knapp, "Amphetamine and Addiction," *Journal of Nervous and Mental Diseases* 115, no. 5 (May 1952): 408. Emphasis is the cited article's.

some users to go so far as to eat the paper inserts of Benzedrine inhalers in order to obtain a high. These peculiar uses led him and other physicians to question whether addiction to amphetamines was possible and, if so, whether the potential for abuse could help physicians understand better the stimulation that the drug produces.

During the late 1940s and 1950s, physicians became increasingly interested in this question. Knapp's query was of particular note because he was cognizant that then-current definitions of addiction were not sufficient to explain amphetamine's effects. Writing in 1940, physician Wilfred Bloomberg concluded that, after following a small number of narcoleptic patients for up to two years, he found no instances of "craving" for the drug.⁹² Even more notable were the observations of Louis S. Goodman and Alfred Gilman, co-authors of *The Pharmacological Basis of Therapeutics*, a text widely considered the "bible of pharmacology." In 1941, they echoed Bloomberg's sentiments about Benzedrine by stating that while habituation similar to tobacco or caffeine to amphetamine occurred, addiction to amphetamine was unknown.⁹³ The contribution of Knapp to this dialogue was to ask precisely what is meant by addiction. If the concept's definition depended solely on physical dependence and characteristic withdrawal symptoms, then suggestions that amphetamine did not cause addiction could have been viewed as correct at this time. However, one could apply the formulation proposed by the National Research Council in 1950 that

Addiction is a state of periodic or chronic intoxication, detrimental to the individual and to society, produced by repeated administration of the drug. Its characteristics are a compulsion to continue taking the drug and to increase the

⁹² Wilfred Bloomberg, "End Results of Large Doses of Amphetamine Sulfate," *New England Journal of Medicine* 222 (1940): 946.

⁹³ Louis S. Goodman and Alfred Gilman, *The Pharmacologic Basis of Therapeutics* (New York: Macmillan, 1941), 437.

dose, with the development of psychic, and sometimes physical, dependence on the drug's effects. Finally, the development of means to continue the administration of the drug becomes an important motive in the addict's experience.⁹⁴

When so viewed, the problem of amphetamine's potential for addiction became considerably more complex. In their study of alcoholism and the use of Benzedrine therapy for its treatment, Edward C. Reifenshtein and Eugene Davidoff contended that "alcoholics, other addicts, and neurotics with a morbid craving for medication" tended to procure Benzedrine on their own and use it excessively. "Convinced that in certain persons...[B]enzedrine is habit forming," they recommended the use of amphetamines for the treatment of alcoholism only within institutional settings where patients could be medically monitored.⁹⁵ In another case from 1947, Russell Monroe and Hyman Drell emphasized prisoners' use amphetamines despite warnings from authorities. In one military prison, they found that a quarter of inmates had consumed amphetamine for its stimulating effects. Half of the prisoners had stated that they had started taking the drug while civilians, often by swallowing the paper found in Benzedrine inhalers.⁹⁶

Do such observations of physicians mean that, in contrast with their colleagues only a few years earlier, clinicians suddenly viewed amphetamines as dangerous drugs? Not necessarily. While concerned about the excessive use of amphetamines, it would be unfair to say that medical authorities were convinced that amphetamine abuse was a problem. Despite his own efforts to conceptualize addiction in broader terms, Knapp

⁹⁴ National Research Council, quoted in Harris Isbell and H. F. Fraser, "Addiction to Analgesics and Barbiturates," *Journal of Pharmacology and Experimental Therapeutics* 99, no. 4 (August 1950): 355.

⁹⁵ Edward C. Reifenshtein and Eugene Davidoff, quoted in Knapp, "Amphetamine and Addiction," 408.

⁹⁶ Russell H. Monroe and Hyman J. Drell, "Oral Use of Stimulants Obtained from Inhalers," *Journal of the American Medical Association* 135, no. 14 (December 6, 1947): 909-915.

concluded that amphetamine was “not accompanied by marked physical dependence, or disabling physical consequences. Various addicts have used it in combination with other drugs. While taking it some unstable personalities have broken down, but others stayed at least as well as they were before its use. Addiction to it alone is infrequent, and in comparison to other addictive states, may be relatively benign.”⁹⁷ While addiction to amphetamines was possible, it seemed so infrequent to be a major problem for many clinicians. Moreover, addiction to these drugs was often viewed as ancillary to the abuse of other drugs, such as barbiturates and alcohol. Recognition of how widespread the problem might be was still years away. Consider the observation of Marie Nyswander, who wrote in 1959 that “addiction to Benzedrine and Dexedrine seems to have lessened in the past 5 years.”⁹⁸

The finely gradated views of psychiatrists and other physicians about the implications of extramedical amphetamine use during the late 1940s and 1950s meant that medical authorities could address the problems of amphetamine abuse only tenuously. A decision to distinguish between addiction, predicated on physical dependence and withdrawal symptoms, and habituation, based on the psychological effects of the drug on its user, meant that many clinicians adopted a nuanced approach. Ironically, this particular understanding meant that physicians downplayed the potential problems posed by the extramedical consumption of these drugs. Only after considering psychological dependency as deleterious as physical dependency could clinicians begin

⁹⁷ Knapp, “Amphetamine and Addiction,” 426.

⁹⁸ Marie Nyswander, in Silvano Arieti, ed. *American Handbook of Psychiatry*, New York: Basic Books, 1959.

to forge a consensus on the hazards of amphetamines.⁹⁹ Their engagement of this issue—one of careful, if inconsistent, consideration—was a necessary step in the transition from a tolerant, permissive attitude toward a more cautious stance regarding their dangers.

One case in point involves methylphenidate, long considered a safer alternative to amphetamines. In their enthusiasm for Ritalin, physicians had downplayed the drug's potential for causing dependence. As psychiatrist Berchmans Rioux of the North Dakota State Hospital suggested in 1960, "Unlike the more powerful stimulants, Ritalin does not reportedly produce the untoward effect of addiction. Lacking proof, this possibility has only been mentioned without actual reference to the case involved."¹⁰⁰ This oversight, Rioux explained, was not entirely the fault of clinicians. Part of the problem was that most definitions for addiction, even those compiled by the World Health Organization, presumed that a depressant or narcotic was the culprit. Nevertheless, Rioux noted the potential for amphetamines to cause addiction or habituation if the necessary interplay between the pharmacological action of the drug and the psychological make-up of the user were present. Just as amphetamines had the potential for addiction, so, too, did Ritalin. To make his case, Rioux noted the case of a 37-year-old female stenographer who was hospitalized for excessive use of Ritalin during a year-and-a-half period in which she "had taken the drug in order to counterbalance...feelings [of inferiority]."¹⁰¹ Moreover, her mother had recently passed away and had a problem with the drug. Of his patient, Rioux noted,

⁹⁹ Such consensus, however, does not imply that all clinicians felt similarly about the matter. In the next chapter, I take up the issue of physician dissent to controls on amphetamines during the early 1970s.

¹⁰⁰ Berchmans Rioux, "Is Ritalin an Addiction-Producing Drug?" *Diseases of the Nervous System* 21, no. 6 (June 1960): 346.

¹⁰¹ *Ibid.*, 347.

With ingenious variations she appealed repeatedly for the medicine....She downplayed the seriousness of her consumption of Ritalin in the face of her own belief that it had killed her mother. This belief was a contraindication of her opinion that Ritalin was “good.” For a long time, the patient maintained that...the drug...was the sole treatment for her condition.¹⁰²

Rioux provided another example of a patient hospitalized for schizophrenia and prescribed Ritalin. She had escalated to a point where she was taking up to 125 tablets of Ritalin a day. “Given another person, it might have brought on a simple state of habituation,” her doctor concluded, but “this kind of Ritalin abuse demonstrated by this patient pertains to addiction.”¹⁰³ Unfortunately, views such as Rioux’s tended to be isolated and would not be taken very seriously for a number of years.

By the mid-1960s, the views of psychiatrists about the potential of amphetamine abuse were beginning to change. Indicative of this shifting ground were the observations of the Cedar Grove, New Jersey, physician Henry A. Davidson, who told the story of a 37-year old woman in a 1964 article evocatively titled, “Confessions of a Goof Ball Addict.”¹⁰⁴ Among the cognoscenti who consumed them, a goof ball was generally understood as the combination of a “green heart” and a “red bullet”—the green heart is a triangular tablet containing dextroamphetamine and amobarbital (Dexamyl), and the red

¹⁰² Rioux, “Is Ritalin an Addiction-Producing Drug?” 347.

¹⁰³ Ibid., 348-49. Compared to amphetamines, little is known about the illicit use of Ritalin during the 1960s and just how widely the drug might have been abused, but anecdotal evidence suggests that knowledge of the drug, especially after its indication for school-age children, and its illicit uses did increase substantially during this decade. In one case, a young man living in Australia began taking Ritalin between the age of 13 and 14, during which time the drug was freely available. According to the physicians reporting his case, “He learnt the habit from some others boys at school....He found the drug of value to him when studying and took in a dose of two tablets per night (20 milligrams) for four nights a week for some four years.” See Allen A. Bartholomew and W. S. Reynolds, “Four Cases of Progressive Drug Abuse,” *Medical Journal of Australia* 13, no. 1 (April 1, 1967): 653. He later went on to illegally use a number of other drugs, including Benzedrine, barbiturates, cannabis, cocaine, morphine, and morning glory (a plant whose seeds produce hallucinogenic effects).

¹⁰⁴ Henry A. Davidson, “Confessions of a Goof Ball Addict,” *American Journal of Psychiatry* 120, no. 8 (February 1964): 750-756. Davidson’s title references Thomas DeQuincey’s famous *Confessions of an English Opium Eater* (Oxford: Shakespeare Head Press, 1930).

bullet is a capsule of secobarbital. Davidson related his own belief that when mixing a sedative and a stimulant, the user would get either a mildly stimulating or mild depressing experience depending on which drug was pharmacologically dominant. Buttressing Davidson's own view was a clinical literature that, by the mid-1960s, still provided only a cursory look at such extramedical uses.¹⁰⁵

The titular "goof ball addict," whom Davidson called simply "O", related that it was sheer boredom of life and the excitement induced by drugs that fed her addiction. Davidson probed further to understand what these extramedical uses actually did for the addict. He deduced that the drugs alleviated O's boredom and provided her with a sense of intellectual, emotional, and even sexual fulfillment. As she elaborated, "With goof balls, everything seems so wonderful that you want to get deeply embroiled in things, instead of sitting back as an onlooker....Goof balls make the world seem endlessly interesting and potentially wonderful—in fact, about to be wonderful the next moment."¹⁰⁶ While marveling at such responses, Davidson attempted to contextualize those answers within the patient's state of addiction. While acknowledging the pleasure that drug use brought patients, he also expressed deep concern about the detrimental effects it was having on intelligent people. Also of note was Davidson's worry that physicians abetted such uses through careless prescribing and a permissive attitude toward stimulant consumption.

The concerns of physicians over the extramedical use of amphetamines rarely matched those expressed by psychiatrist John Griffith. In 1966, he published a study of

¹⁰⁵ As Davidson himself lamented about this and other such views on the extramedical use of psychoactive drugs, "We ought to know more about goof ball addiction than this." See, Davidson, "Confessions of a Goof Ball Addict," 750.

¹⁰⁶ Ibid., 753.

the illicit amphetamine drug traffic in Oklahoma City.¹⁰⁷ Griffith's findings suggested how the different experiences of medical caregivers and law enforcement impeded a common understanding of the problem. On the one hand, he discovered that users of illicit drugs rarely sought care through conventional medical channels; so a review of hospital records yielded only incomplete results about amphetamine abuse. Equally problematic was the fact that police records could identify the names and faces of drug users, but they lacked a proper medical or sociological context for understanding this illicit use. Griffith and his staff undertook interviews with drug peddlers and drug users, gaining information from three dealers and 43 users after over 100 attempts. While he chronicled the use of drugs by dependent individuals, his study's major focus was the role played by physicians and pharmacists in fostering their illicit distribution. Griffith's research further demonstrates the growing concern beginning to take hold among physicians regarding the problems of amphetamine abuse during the late 1960s, especially the role that the medical profession might have played in unwittingly fostering the problem.

In 1966, the issue of amphetamine abuse appeared to be reaching a climax among concerned medical leaders when the American Medical Association's (AMA) Committee on Alcoholism and Addiction and Council on Mental Health issued a formal statement on amphetamine and stimulant dependence. While beginning with a concession that amphetamines and other psychostimulant did not cause physical dependence along the

¹⁰⁷ John Griffith, "A Study of Illicit Amphetamine Drug Traffic in Oklahoma City," *American Journal of Psychiatry* 123, no. 5 (November 1966): 560-569. My use of the term "illicit" refers to infractions of both federal and Oklahoma state laws regarding illegal drug trafficking. Though not mentioned explicitly in his report, the Drug Abuse Control Amendments of 1965 to the Federal Food, Drug, and Cosmetics Act are the probably main point of interest here, as Griffith's survey explicitly mainly considered "peddling" that was part of multi-state networks.

same lines as narcotics and barbiturates, the report went on to argue that the “dependence-producing characteristics” that were “perpetuated solely by psychic needs to overcome depression or fatigue or to attain the euphoric and excitatory” effects of the drug were a pressing concern for the committee.¹⁰⁸ While outlining nonmedical uses by truck drivers and thrill-seeking teenagers and young adults as particular concerns, the report went on to state that overprescription by physicians was “serious enough to warrant the concern of the medical profession.”¹⁰⁹ To underscore its point, the committee distinguished between “use” as the “proper place of stimulants in medical practice,” “misuse” as “the physician’s role in initiating a potentially dangerous course of therapy,” and “abuse” as the “self-administration of these drugs, without medical supervision and particularly in large doses, that may lead to psychological dependence, tolerance, and abnormal behavior.”¹¹⁰ In making its position, the AMA suggested that the medical profession had officially begun to consider the seriousness of amphetamine abuse, as well as the profession’s possible complicity in the problem.

Physicians Debate among Themselves

In 1970, the Australian physician Allen Bartholomew perceptively observed that, “The position has now been reached where many clinicians are all but prepared to jettison the amphetamines from the therapeutic armamentarium.”¹¹¹ Within the span of two

¹⁰⁸ Committee on Alcoholism and Addiction and Council on Mental Health, “Dependence on Amphetamines and Other Stimulant Drugs,” *Journal of the American Medical Association* 197, no. 12 (September 19, 1966): 1023. In the report, the committee explicitly acknowledged that its use of the term “dependence” was meant to replace “addiction” in conformity with the new WHO definitions.

¹⁰⁹ Ibid.

¹¹⁰ Ibid.

¹¹¹ Allen A. Bartholomew, “Amphetamine Addiction,” *Medical Journal of Australia* 1, no. 24 (June 13, 1970): 1209.

decades, the medical profession had, as a whole, moved away from a consensus that regarded amphetamines as safe and non-addicting to a new view tinged with suspicion. Yet if doctors were beginning to agree about the dangers of recreational use, they still had to contend with psychostimulants' place in medical practice.

In addition to debating the clinical efficacy of the drug, physicians also considered the social contexts within which stimulants were prescribed. In a letter to the editor of the *Canadian Medical Association Journal* in 1970, psychiatrist Morton S. Rapp underscored he viewed as “particularly misleading” advertisements by Ciba promoting the use of Ritalin for states of apathy, chronic fatigue, and mild depression. In addressing the marketing of methylphenidate for such applications, Rapp implied that Ciba's own advertisements ignored the pharmacological properties of a central nervous stimulant he believed was indistinguishable from amphetamine. “It is generally accepted that amphetamines have few genuine medical uses, that they are over-prescribed, and that they have a high potential for habituation. The same thinking should apply to methylphenidate.”¹¹² In true depressive states, he argued, stimulants were not necessarily curative, and, in extreme cases, could be deadly for patients with suicidal ideation. If such risks remained unsubstantiated and perhaps unlikely for many patients, Rapp at least discerned that the physiopathology and psychopathology of chronic fatigue and apathy were being increasingly understood as complex. Implicit in Rapp's criticism was a charge that Ciba's marketing of Ritalin for a variety of conditions ignored the etiological factors physicians had to consider. Put another way, the firm sold the drug on the pretense of its effects rather than addressing a condition's cause. But even more grievous for physicians like Rapp was the drug's potential for habituation and the clinician's role in causing the

¹¹² Rapp, “Let the Physician Beware,” 1188.

problem: “Finally, if methylphenidate is prescribed for a young person whose fatigue or apathy stems from unalterable psychosocial conditions, the patient will require the drug for as long as these conditions prevail; this renders meaningless the claim that psychic dependency is rare.”¹¹³

An even more explicit indicator of physicians’ reflexivity about their prescribing practices can be discerned from the medical debates on stimulant abuse in Sweden during the late 1960s that preceded the tighter regulation of amphetamines in the United States by 1970. In a letter to the *New England Journal of Medicine* published in October 1970, physician Einar S. Perlman attempted to contextualize Sweden’s problems with stimulant abuse and their relevance for medical professionals in America. Amphetamines had been introduced in Sweden in 1938, but because of increasing oral abuse, they had been classified as narcotics in 1944.¹¹⁴ As Perlman observed, since that time, Swedish doctors generally had been aware of amphetamines’ abuse potential and cautious about their prescription. As a result, relatively little medical amphetamine had made its way to the illegal market. However, when newer central nervous system stimulants, particularly methylphenidate (Ritalin) and phenmetrazine (Preludin), appeared in Sweden during the 1950s, they were not classified as narcotics because their abuse potential was still unknown. As a result, they were prescribed for myriad ailments, from obesity to

¹¹³ Rapp, “Let the Physician Beware,” 1209.

¹¹⁴ A very brief but useful list of psychoactive drug categories is provided by Davenport-Hines in *The Pursuit of Oblivion*, 12. Narcotics may be understood simply as substances that “relieve pain, induce euphoria and create physical dependency.” The best known drugs in this category are opium, morphine, heroin, and codeine. By contrast, stimulants “cause excitement, and increase mental and physical energy, but create dependency and may cause psychotic disturbance.” These two classes of drugs are recognized as distinct, but historically, there has existed ambiguity in the way drugs are classified. Perlman’s comment about the classification of amphetamines as narcotics by Swedish authorities can be contextualized by the fact that opiates were long considered the prime drugs of addiction. Before, and even during, the shift toward more nuanced understandings of drug dependency, ones that considered both physical and psychological aspects, it was common to classify drugs as narcotics based more on their addiction potential than their physiological effects.

depression. Recreational users who encountered difficulties obtaining supplies of amphetamines on the illegal market soon learned of Ritalin and Preludin through its increasing medical prescription, and they turned to these readily available stimulants as a substitute for amphetamines.¹¹⁵

Consumption of these drugs by addicts intersected directly with the prescribing practices of physicians. The illicit market for newer stimulants initially obtained much of its supply, Perlman reasoned, “from ‘patients’ (often fat girls) who obtained prescriptions without much difficulty.”¹¹⁶ An expanding illegal market, one that resulted in an estimated 10,000 stimulant abusers in Sweden by 1970, had initially attained its drugs through duplicitously obtained prescriptions.¹¹⁷ Although Preludin and Ritalin were withdrawn from the Swedish market in 1965 and 1968, respectively, the damage had already been done. Although there had been some indications in the early 1960s that abuse of these two stimulants had reached serious proportions, Swedish authorities were slow to react. Beginning in 1967, physicians could prescribe stimulants only with a personal license from the National Board of Health—one granted for each patient—in the case of specific indications such as narcolepsy and hyperkinesis. For Perlman, the hard-lesson learned in Sweden had implications for the American doctors who were the core audience of the publication:

In view of what has happened, Swedish doctors and medical students have been so sensitized that advertisements of the responsible agents in such journals as the *New England Journal of Medicine* have caused considerable resentment (although

¹¹⁵ Einar S. Perlman, “Speed in Sweden,” *New England Journal of Medicine* 283, no. 14 (October 1, 1970): 760-761.

¹¹⁶ *Ibid.*, 760.

¹¹⁷ An estimate of 10,000 addicts is considerable for a nation such as Sweden, and when compared to an estimate of less than 500 abusers of heroin and opiates. According to Perlman, some workers estimated that about 0.5 percent of Stockholm’s population was addicted to stimulants by 1970.

the drugs in question are not marketed in Sweden). Swedish doctors see no reason why similar abuse of central stimulants could not appear in other countries if their serious abuse potential is not carefully weighed against their rather limited therapeutic application.¹¹⁸

Why was psychostimulant abuse, not to mention physicians' role in accidentally supporting it, becoming rampant in the United States? In a response to Perlman's letter, the editor of the *New England Journal of Medicine* contemplated recent controls placed on amphetamines and other stimulants such as methylphenidate by the federal government in August 1970. The decision of FDA Commissioner Charles C. Edwards to limit the legitimate applications of these drugs "must have jolted countless patients who use amphetamines, many doctors who believe in them, and the firms that make and market them, [as] the FDA action cannot be seriously challenged." But, the editor queried, "did it have to be so precipitate—or for that matter, did have to be so late in coming? If more attention had been paid by the FDA, by the medical profession, and by the profession's journals (including this one) to the Swedish warning flags that have been flying so grimly...the sheep-to-wolf act might have been more gradual and hence more readily acceptable to patient, doctor, and pharmacist."¹¹⁹

The editor's response reposed the question of how amphetamines, their derivatives, and related drugs such as Ritalin and Preludin were recast from valued therapeutic agents to pernicious drugs of abuse. One answer is that such a framework is partially artificial, and that such an understanding obfuscates how legitimate medical uses stood side-by-side with patterns of abuse. In the editor's opinion, policymakers espoused a more simplistic view of the problem, which stood in contrast to the more scientific

¹¹⁸ Perlman, "Speed in Sweden," 761.

¹¹⁹ "And Pep in America," *The New England Journal of Medicine* 283, no. 14 (October 1, 1970): 761.

debates of medical leaders and their attempts to reconcile amphetamines' clinical utility with their threat of abuse. To make his point, he asserted that a major role in the "about face" on amphetamines had been played by Representative Paul G. Rogers (D-FL), who argued that control of the psychostimulants would reduce overall drug abuse in the United States by 20 percent. Rogers requested Commissioner Edwards to "lay a foundation for eliminating amphetamines by conducting studies to show that they are necessary and effective in only very limited medical situations."¹²⁰ Taking care not to misquote the senator, the editor for the *New England Journal of Medicine* retorted that, "the Congressman's words suggest more of an inquisitional rather than a double-blind approach, but an unbiased re-examination of amphetamines is in order."¹²¹ If concerned by the approach that some legislators and policymakers were taking to address the issue of amphetamine abuse, the editor still empathized that an unknown proportion of these drugs were being diverted for illicit extramedical uses. "In spite of the fact that medical use of central-nervous-system stimulants is now under strict control, and in spite of widespread public concern, it is proving difficult to check the momentum of speed in Sweden." The editor continued, "Illicit channels sustain the market. Yet Dr. Perlman's account also makes clear than an approved use of pep pills for mood or weight reduction may have conditioned the situation and may have facilitated the sprouting and grown of Sweden's most serious drug-abuse problem."¹²² As for the United States, the editor found Rogers's claim that more controls of amphetamines would reduce drug abuse by 20

¹²⁰ American Medical Association, Council on Legislative Activities: Legislative Roundup, vol. 11, July 31, 1970.

¹²¹ "And Pep in America," 761.

¹²² Ibid.

percent unduly optimistic. But he could support policymakers' motivations by observing that "drug abuse is an epidemic that to date has found the forces of public health helpless and unprepared. Epidemics call for drastic measures, and in this context any measure that may help, even if to an unknown degree, deserves support."¹²³

Conclusion

The characterization of extramedical stimulant consumption as an epidemic by the editor of the *New England Journal of Medicine* provides further evidence that by the end of the 1960s, the freewheeling speed culture was out of control. No longer could doctors continue to prescribe amphetamines without regard for their safety. Going forward, physicians would have to balance their medical usefulness with their potential for danger. Clinicians would also have to come to terms with how lax prescribing practices contributed, in part, to the problem of stimulant abuse.

¹²³ "And Pep in America," 761.

Chapter 6

Regulation and Entrenchment: Charting Amphetamines during the 1970s

Introduction

On June 22, 1971, President Richard Nixon addressed the American Medical Association's (AMA) House of Delegates. He condemned the rising use of drugs in the United States. Especially troubling, Nixon opined, was the idea that “we have created in America a culture of drugs. We have produced an environment in which people come naturally to expect that they can take a pill for every problem—that they can find satisfaction and health and happiness in a handful of tablets or a few grains of powder.”¹ Passage of the Controlled Substances Act the previous year suggested that policymakers had become serious enough about the “culture of drugs” to do something about it. However, the legislation marked a beginning, not an end, of federal efforts to address the speed culture. The 1970s would be a pivotal decade for the history of psychostimulants in America. On the one hand, legislative, regulatory, and judicial attempts to control the illegal production, illicit consumption, and overprescription of amphetamines would reach a fevered pitch. But their impact on the ground was mixed, as aspects of the speed culture would become so entrenched that by decade's end, they threatened to remain permanent fixtures of American society.

In this chapter, I explore efforts by lawmakers during the 1970s to impose and strengthen controls on amphetamines and other psychostimulants. At the same time, I consider the opposition of physicians who equated more stringent regulations with

¹ Richard Nixon, speech to American Medical Association House of Delegates, June 22, 1971, printed as “M.D.'s Praise Nixon's Drug Proposal,” *American Medical Association News*, July 5, 1971, cited in Nelson Hearings, 925.

attempts to limit their professional power. The forces of drug control would prevail, at least on paper. But passing a law is one thing; putting it into action is a different matter. Despite attempts at regulation and enforcement throughout the 1970s, some elements of the speed culture would prove difficult to curtail. Doctors, some motivated by profit, still prescribed amphetamines to their patients by the millions. Housewives seeking more pep and hoping to lose weight still turned to the drugs, as did athletes. If efforts to stem the tide of amphetamine overconsumption could not work by addressing matters of production and distribution, then perhaps it would be necessary to modify physician practices through education and the imposition of penalties for overprescribing.

Prelude to Controls and Issues of Illicit Use

The regulatory control of drugs of abuse in the period between World War II and the early 1970s was first marked by the enactment of strong legal sanctions directed against abusers themselves, and then, in the early 1960s, a reactionary shift that reassigned responsibility for these drugs to physicians.² This trajectory delineated by

² It is important to bear in mind that *regulation* of the pharmaceutical industry, as a whole, over drug safety, pricing, and efficacy is a matter distinct from the *control* of drugs with the potential for abuse. However, the two issues did overlap at times during Congressional hearings between the late 1950s and early 1970s, particularly within the Nelson hearings. For more on the history of industry regulation in the postwar era, an excellent introduction is Philip J. Hilts, *Protecting America's Health: The FDA, Business, and One Hundred Years of Regulation* (New York: Alfred A. Knopf, 2003). For a complimentary account of how the drug industry resisted attempts at reform, see Dominique A. Tobbell, "Allied against Reform: Pharmaceutical Industry-Academic Physician Relations in the United States, 1945-1970," *Bulletin of the History of Medicine* 82, no. 4 (Winter 2008): 878-912; and Dominique Avril Tobbell, *Pharmaceutical Networks: The Political Economy of Drug Development in the United States, 1945-1980*, Ph.D. dissertation, University of Pennsylvania, 2008. For more on how scientific research intersected with regulation in the development of safer and more efficacious pharmaceuticals, see Marks, *The Progress of Experiment*. Classic yet still enduring accounts of pharmaceutical regulation in the twentieth century include Peter Temin, *Taking Your Medicine: Drug Regulation in the United States* (Cambridge, MA: Harvard University Press, 1980); Charles O. Jackson, *Food and Drug Regulation in the New Deal* (Princeton, NJ: Princeton University Press, 1970); and James Harvey Young, *Pure Food: Securing the Federal Food and Drugs Act of 1906* (Princeton, NJ: Princeton University Press, 1989).

For more on the history of drug controls in the postwar United States, see Musto, *The American Disease*; David Musto and Pamela Korsmeyer, *The Quest for Drug Control: Politics and Federal Policy in an Era of Increasing Substance Abuse, 1963-1981* (New Haven, CT: Yale University Press, 2002); and Jonathan Erlen and Joseph Spillane, eds. *Federal Drug Control: The Evolution of Policy and Practice*

historian David Musto, which describes the control of narcotics, did not apply so neatly to amphetamines. They took a largely exceptional course for three reasons. First, although patterns of abuse were evidenced as early as the 1940s, the amphetamines retained their therapeutic utility during the postwar period. Their medical legitimacy never disappeared, despite new regulations and sustained attacks from within the medical establishment. Second, the concept of addiction, taken to mean physical rather than psychological dependence, did not apply to the amphetamines the way it did to narcotics. Only with the changing concept of addiction proffered by medical professionals concerned about amphetamine abuse during the late 1950s and 1960s did stimulants come under greater scrutiny. Finally, there was the fact that amphetamines were produced and marketed by reputable pharmaceutical firms and whose distribution and consumption were embedded within a medical-pharmaceutical establishment that stood in stark contrast to the cannabis and heroin that were the concern of policymakers and authorities.

As noted before, Benzedrine inhalers served as the first major source of amphetamine abuse. Monroe and Drell's research revealed that of a sample of 1,000 military prisoners, a quarter of them abused amphetamines in this manner. The misuse of amphetamine inhalers had become such a widespread problem that many companies, most notably Smith, Kline & French (SKF), withdrew them from the market before the Food & Drug Administration (FDA) banned their sale outright in 1959.³ That same year,

(Binghamton, NY: Pharmaceutical Products Press, 2004). In particular, see chap. 10 of *The American Disease*, where Musto discusses the dominance of Henry J. Anslinger, commissioner of the Treasury Department's Federal Bureau of Narcotics, during the immediate postwar period, in which penalties for illicit narcotic use were stiffened considerably. This approach to the problem of drug abuse declined during the Kennedy administration, due to the role of a new successor Henry Giordano, and the increasingly important role played by the National Institute of Mental Health in reconceptualizing problems associated with drug abuse.

the FDA undertook an extensive investigation into the sale of amphetamines at truck stops and obtained positive evidence in more than 200 cases.⁴

Following these initial investigations, several bills were introduced to control the illicit trade in amphetamines, but no substantive legislation was passed until the Drug Abuse Control Amendments of 1965. Intended to redress the diversion of legal supplies for illicit purposes, the law required the registration of manufacturers, formulators, and wholesalers of amphetamines. Retail pharmacies and physicians were exempt. Penalties were enacted against illicit distribution, but they did not cover the possession of amphetamines for personal use.⁵

It was only with the passage of the Comprehensive Drug Abuse Prevention and Control Act of 1970, commonly known as the Controlled Substances Act, that all federal laws dealing with the abuse of drugs were unified into a single piece of legislation. The cornerstone of this law was the creation of five Schedules, or classifications, for all drugs, based on their potential for abuse.⁶ Schedule I drugs are those with a high potential for dependency, no currently accepted medical use in the United States, and a lack of accepted safety. At the other end, Schedule V drugs are those with a low potential for abuse and legitimate medical applications. With the exception of injectable methamphetamine, which was more tightly controlled, the amphetamines were placed

³ J. A. Marshman and R. J. Gibbins, "The Credibility Gap in the Illicit Drug Market," *Addictions* 16, no. 4 (Winter 1969): 22-25.

⁴ Arthur S. Fleming, "Amphetamine Drugs," *Public Health Reports* 75, no. 1 (January 1960): 49-50. The published article is a reprint of a statement made by Fleming, the Secretary of Health, Education, and Welfare under President Eisenhower, on November 9, 1959.

⁵ The addition of the Staggers-Dodd Amendments in 1968 increased penalties for sale, and also imposed criminal sanctions, as a misdemeanor, for possession of amphetamines for personal use.

⁶ The Controlled Substances Act is actually Title II of the Comprehensive Drug Abuse Prevention and Control Act, but as the key piece of legislation, it is often used in place of the longer title.

initially in Schedule III. The regulations pertaining to the class of drugs added only a few minor controls beyond those imposed by the 1965 Amendments. Pharmacies, physicians, and laboratories, as well as manufacturers and distributors of the drugs were required to register with the Bureau of Narcotics and Dangerous Drugs (BNDD).

The following year, in 1971, amphetamines were moved from Schedule III to Schedule II, which entailed a more rigorous set of controls. Manufacturers were required to produce such drugs in facilities with heightened security in order to prevent their diversion. Preprinted BNDD order forms containing the name and registration number of the purchaser were necessary for each transaction, and all import and export shipments required the permission of the BNDD. Telephone and refill prescriptions of these drugs were prohibited. But perhaps the most notable control imposed by the Schedule II regulations was a provision setting limits on the amount of the bulk drug that could be manufactured and sold to dosage formulators. Such quotas were based on estimated medical needs, and the 1972 quota for amphetamines was set at only 20 percent of the amount produced in 1971.⁷

What brought about the rapid transition of the psychostimulants from Schedule III to Schedule II, along with the imposition of more stringent controls? A main reason for the shift in classification stemmed from concerns of lawmakers about the overproduction of amphetamines and their supposed diversion from licit to illicit uses. Of particular interest were the hearings and subsequent campaigns by the Select Committee on Crime in the House of Representatives and the Subcommittee to Investigate Juvenile Delinquency in the Senate. These hearings were dominated by issues of amphetamine overproduction and the failure of manufacturers and wholesalers to maintain control at

⁷ McGlothlin, *Amphetamines, Barbiturates, and Hallucinogens*, 7-8.

critical points in the distribution chain. As early as 1962, the FDA estimated production of 10-milligram amphetamine tablets to be around 8 billion per year, or roughly 40 tablets per capita!⁸

Firming the Controls on Psychostimulants

Passage of the Controlled Substances Act brought a wide array of drugs under a comprehensive set of regulations to govern their manufacture, prescription, and use. In 1971, Senators Birch Bayh of Indiana and Thomas Eagleton of Missouri introduced Senate bill 674 during the 92nd Congress. The bill proposed a tightening of controls on the manufacture and distribution of psychostimulants by relocating them to Schedule II.⁹ Since July of that year, the Bureau of Narcotics and Dangerous Drugs (BNDD) had already acted administratively to reschedule amphetamines and methamphetamines, but the senators sponsoring the legislation believed the order did not go far enough to protect the public. Their bill sought to formalize the move, while also adding methylphenidate and phenmetrazine to Schedule II.

In his opening remarks for the hearing on the proposed legislation, Senator Bayh pointed out that 5 million Americans took pep pills without prescriptions or medical supervision, while almost 100,000 “speed freaks” used the drugs intravenously. For him, the issue was primarily one of abusers who “come from every strata of society,” be they college students, truck drivers, or housewives.¹⁰ His colleague, Senator Eagleton,

⁸ D. W. Byles, “Abuse Control Laws and the Drug Industry,” in Russo, *Amphetamine Abuse*, 39-50.

⁹ “To Amend the Controlled Substances Act to Move Amphetamines and Certain Other Stimulant Substances from Schedule III of Such Act to Schedule II, and For Other Purposes,” S. Bill 674, 92nd Cong., 1st sess., 1971.

¹⁰ Statement of Sen. Birch Bayh, Senate Subcommittee to Investigate Juvenile Delinquency, Senate Committee on the Judiciary, *Legislative Hearings on S. 674, “To Amend the Controlled Substances*

couched his concerns differently. While he commended the work of the Justice Department to address the issue of amphetamine controls, Eagleton was deeply bothered by the Nixon administration's supposed opposition to the legislation. He contended that Congress was responsible for "closing the gaps" left by the Justice Department's order.¹¹ Another point of departure with Bayh was Eagleton's emphasis on the issue of overproduction rather than the misuse or abuse of the drugs. In his opinion, responsibility for the mounting amphetamine problem lay at the feet of the manufacturers as much as, if not more than, physicians and consumers. Put another way, it was the problem of billions of pills rather than millions of users that needed to be addressed.¹²

The senators sponsoring the proposed legislation articulated two different, though not mutually exclusive, positions embraced by policymakers seeking tighter controls. Bayh feared that the public was imperiled by physicians who prescribed in excessive quantities and without consideration for their potential danger. That Americans from all walks of life, even schoolchildren, were taking these drugs for a wide variety of conditions made their consumption a pressing public health issue. For Eagleton, however,

Act to Move Amphetamines and Certain Other Stimulant Substances from Schedule III of Such Act to Schedule II, and For Other Purposes," 92nd Cong., 1st sess., 1971, 71-73. Hereafter cited as "Legislative Hearings on S. 674."

¹¹ It is worth noting that the leading senators who promoted passage of S. 674, including Birch Bayh, Thomas Eagleton, Lawton Chiles, and Thomas J. McIntyre, were all Democrats. While their support of the legislation should not be construed solely as a partisan issue, they did take the opportunity to differentiate their legislative approach to addressing amphetamine controls from the Nixon administration's preference for an administrative approach via Justice Department rulemaking procedures.

¹² Statement of Sen. Thomas Eagleton, *Legislative Hearings on S. 674*, 73-74. To his credit, Eagleton openly acknowledged discrepancies in the number of amphetamine tablets manufactured in the United States on an annual basis, and he suggested that the 8 billion figure that drove a 1969 hearing on the matter was probably too high. But whether 2 billion as suggested by the drug industry, or 3½ billion tablets claimed by FDA Commissioner Charles Edwards, or even a staggering 10 billion tablets as a pamphlet on drug abuse suggested, Eagleton "[saw] little to be gained from a continuing debate over these numbers. The inescapable point is that even the most conservative estimates far exceed any legitimate medical requirement." As I briefly discuss later in this chapter, however, there may be an important point in knowing exactly how many amphetamines were being manufactured in the United States.

the salient concern involved drug companies that produced and profited from amphetamines. He expressed legitimate fears about pharmaceutical firms' exploitation of legislative loopholes in order to keep their drugs in the marketplace. Under the Controlled Substances Act, authority for changing the scheduling classification of specific drugs originally established by Congress was vested with the Attorney General. Parties objecting to such changes had the right to file their objections by requesting hearings on the matter. Eagleton was extremely concerned about how drug companies availed themselves of this option. SKF had sought an exception for its dextroamphetamine diet drug Eskatrol, the largest selling diet pill in the United States with about \$11-12 million in annual sales. Following SKF's lead in protesting the rescheduling by the Justice Department were smaller companies such as the Mission Pharmacal Company whose drug Fetamin, made the company about \$100,000 in sales. Eagleton was bothered by what he viewed as the Justice Department's decision to permit exceptions to the Schedule III regulations, essentially undermining the law's intent. He also contended that the new law was necessary to impose tighter controls on two drugs, Ritalin and Preludin, whose association with hyperkinetic children and addicts in Sweden during 1970 and 1971 had caused them to escalate in notoriety.¹³

What of the experts called upon to help inform the policymaking decisions of Bayh and Eagleton? They favored tighter controls. Among the most prominent voices at the hearings was physician David E. Smith, still the director of the Haight-Ashbury Clinic in San Francisco. Smith's experiences with amphetamines during the late 1960s had only hardened his stance against them. He emphasized a need to redefine drug abuse to consider more broadly the "use of a drug in a way that interferes with the individual's

¹³ Statement of Sen. Thomas Eagleton, *Legislative Hearings on S. 674*, 76-77.

health, economic, or social functioning.”¹⁴ In doing so, Smith advanced the idea that addiction encompassed substances that did not cause physical dependency. In lurid details he related how users of speed were, in many cases, worse off than abusers of drugs such as heroin and barbiturates, whose addictive qualities were better understood by the public. Smith related the crime, violence, and deleterious health effects associated with speed. Having dealt with the treatment of “freaks” in San Francisco, he warned that places such as Haight-Ashbury and Greenwich Village in New York were epicenters for a “ripple effect” that would occur in other American cities and small towns were the problem of amphetamine abuse not checked by legislators.

Psychiatrist John Griffith was another expert who had the ear of the senators sponsoring S. 674. Among those inclined toward increasing controls, he probably exerted the greatest influence. Since publishing his findings on the diversion of amphetamines in Oklahoma City in the mid-1960s, Griffith had become a professor of psychiatry and pharmacology at the Vanderbilt University School of Medicine in Nashville. He tirelessly testified before a number of Congressional committees investigating the problem of amphetamines during the early 1970s, expressing his strong belief after the passage of the Controlled Substances Act that the amphetamines and other psychostimulant drugs were not regulated tightly enough. As for their medical uses, Griffith argued that the drugs were poor treatments for mild emotional depression, that their effects in the treatment of narcolepsy were inconclusive, and that the use of amphetamines for the treatment of alcoholism was especially ill-advised. Recounting the servicemen who consumed amphetamines during the Second World War, and Air Force pilots who continued to be administered the drug, Griffith pointed to his own Veterans Administration Hospital case

¹⁴ “Statement of Dr. David E. Smith, *Legislative Hearings on S. 674*, 86.

files to provide evidence that many such soldiers had become addicted. The only exception he could condone was the prescription of stimulants for the treatment of hyperkinesis, predicated on the belief that the disorder would eventually subside in those few children who suffered from it and they would no longer need the medication once their behavior had normalized. In the end, Griffith concluded to the subcommittee:

Physicians by and large agree that if amphetamines were to disappear from the market tomorrow, almost all patients would benefit except these children. A problem now being considered in most of the capitals of the free world is whether the benefits derived from amphetamines outweigh their toxicity. It is the consensus of the world scientific literature that the amphetamines are of very little benefit to mankind. They are, however, quite toxic.¹⁵

On the one hand, Griffith was not disingenuous in his remarks. As I noted in the previous chapter, the 1960s saw the increased publication of findings casting doubts on the safety and, in some cases, the efficacy of amphetamines in medicine. All the same, the views of physicians were not universal. Griffith's viewpoint on the dangers of stimulants was supported by a rather selective review of the clinical research literature.

Of the handful of physicians who testified before the Senate subcommittee on July 15 and 16, 1971, the overwhelming majority expressed views that controls on amphetamines were too lax and needed to be increased. Whether couching their arguments in terms of clinical experience, as David Smith had done, or making a case based on pharmacological and clinical research, as John Griffith had done, a clear majority of the testifying physicians asserted a need for tighter controls. Their arguments had resonance, too. In their statements, co-sponsoring senators such as Lawton Chiles of Florida and Thomas J. McIntyre of New Hampshire cited these medical experts to buttress their positions on the need to regulate psychostimulants more tightly.

¹⁵ Statement of Dr. John D. Griffith, *Legislative Hearings on S. 674*, 373-389.

Joining medical experts in their support of assigning amphetamines, methylphenidate, and phenmetrazine to Schedule II were representatives from various drug enforcement agencies. Of particular importance were the testimonies of John Finlator, deputy director of the BNDD, and Henry Simmons, director of the Bureau of Drugs within the FDA. For his part, Finlator explained to the Subcommittee that the BNDD and Congress were not as far apart on the issue of tighter controls as some senators believed. After all, it was his Bureau that took the preemptive measures to classify the amphetamines as Schedule II drugs. Regarding assertions made by Senator Eagleton that the BNDD was soft-pedaling regulation on methylphenidate and phenmetrazine, Finlator responded that his Bureau believed that the drugs had a “potential for abuse.” Nevertheless, more data was necessary before the BNDD could make a final determination on the matter. While still favoring an administrative approach toward regulation, Finlator diplomatically added that “if, in the wisdom of Congress, this bill should be enacted, we are law enforcement people and we will enforce it to the ‘nth’ degree.”¹⁶

By contrast, Bureau of Drugs director Henry Simmons asserted that the drugs in question had legitimate uses and openly questioned the wisdom of the proposed move. For Simmons and the FDA, the issue was not as clear-cut as others averred. There was a need to differentiate between “addiction as compared to simple habituation” where the amphetamines were concerned. While acknowledging that psychostimulants had powerful effects on the central nervous system, Simmons contended that it was unclear that potential drawbacks associated with the drugs outweighed their medical benefits. While the FDA did express reservations about the potential misuse of the drugs, it took a

¹⁶ Statement of John Finlator, *Legislative Hearings on S. 674*, 298-333.

formal position via a policy statement published in the *Federal Register* that placing stricter labeling limits on the amphetamines was a more appropriate measure than outright controls. Simmons was grilled by Senator Bayh about why the FDA had not done more to promote greater controls on amphetamines. The position of Simmons's superiors in the FDA and at the Department of Health, Welfare, and Education was that the Controlled Substances Act had been passed less than a year earlier and that time was still needed to determine whether the law and the administrative procedures for executing it were effective.¹⁷ By moving so hastily to reschedule the psychostimulants, Simmons intimated that Congress would undermine the intent of the original legislation. Bayh responded sharply to this charge:

I think the unspoken question perhaps speaks for itself. I still feel there is little excuse for our Government not to profit from the experience of the Swedes and we are suggesting exactly the same thing that happened to Sweden can happen here. Yet our Government is not willing to accept your recommendations...based on a rather dramatic explanation of what happened in Sweden....We aren't willing to go forth with a comprehensive, total program to keep from shifting from one series of drugs to another.¹⁸

Such a reaction suggests that despite the outward friction between the senators and the Justice Department over a need to reschedule the amphetamines, methylphenidate, and phenmetrazine formally, Bayh and his colleagues at least appreciated the willingness of the BNDD to enforce the law if Congress saw fit to pass it. In contrast, lawmakers appeared less tolerant of the FDA's nuanced and contextualized explanations of the issue. Perhaps the divergence is best explained by considering the distinct domains of the BNDD and the FDA. Whereas the BNDD was primarily an enforcement agency charged

¹⁷ During his testimony, Simmons suggested that his own position was for moving the drugs to Schedule II, but that was not necessarily the position of the FDA and HEW's leadership. While he noted a personal divergence, he nevertheless defended the formal position on the matter.

¹⁸ Statement of Henry Simmons, *Legislative Hearings on S. 674*, 345.

with overseeing pharmaceutical manufacturing and stemming the tide of illicit production and distribution, the FDA's main concern was the drugs' uses, as well as their safety and efficacy. Hence, the FDA's original proclivity to address the problem of amphetamine misuse through stricter labeling underscored a belief that the medical profession and its individual physicians could exercise the restraint necessary to prevent misuse. Such a position, however, did not seem to court as much favor with Bayh and his colleagues.

Perhaps no group was as greatly affected by the federal government's decision to place controls on stimulants than the pharmaceutical firms who produced, marketed, and profited from these drugs. However, the response of the industry to increasing regulation was not uniform, as illustrated by the different positions of SKF and Abbott Laboratories. SKF was still the leading producer of amphetamine drugs, and it probably comes as little surprise that the company's leadership opposed tightened controls on the drug. But not every amphetamine manufacturer took such a stance. Abbott produced methamphetamine as Desoxyn and a combination of methamphetamine and the barbiturate pentobarbital as Desbutal. The firm had officially supported the enactment of the Drug Abuse Control Amendments of 1965 and the Controlled Substances Act of 1970, as well as accompanying manufacturing limits on the drugs. In fact, Abbott vice president Glenn Utt, Jr. observed that his firm supported the proposed move of amphetamines from Schedule III to Schedule II status. His company had made the decision in 1969 to cease the production of injectable methamphetamine, partly because it was not a high volume product for the company, with sales of less than \$50,000 per year, but also because of the company's concerns that the product was becoming too

readily diverted for illicit uses.¹⁹ Such support was tempered by a continued belief among executives that Abbott's amphetamines had valid medical use, particularly for obesity. Even though it acknowledged the wide array of opinions held by physicians about amphetamines' clinical applications, the company maintained that many doctors believed the drugs were appropriate for their patients. But in light of what Utt called a "record of diversion and abuse of amphetamines in this country that is beyond dispute," the company supported the proposed Schedule II controls, hoping that they would satisfy lawmakers' concerns over diversion without interfering with the legitimate prescription of amphetamines.²⁰

How does one account for such open support of regulatory controls by a company that, on the surface, stood to suffer from such laws? One answer might have been that the drugs in question were not generating sufficient revenue in the first place, or that such limited profits did not outweigh an amicable relationship between the firm and policymakers. The removal of injectable methamphetamine from the market because of its low volume of sales is one such indication. Another possibility is that the leadership of firms such as Abbott were genuinely concerned about the problems associated with diversion and abuse, particularly the association of the patent drug industry with such practices. Abbott's support of the legislation contrasted with SKF's opposition. During the early 1970s, SKF's Eskatrol was the leading amphetamine medication in the United States, accounting for one-fifth of all drugstore purchases of amphetamine drugs.²¹ While SKF's opposition may be understood as the rational response of a company concerned

¹⁹ Statement of Glenn S. Utt, Jr., *Legislative Hearings on S. 674*, 161-162.

²⁰ *Ibid.*, 163.

²¹ *Ibid.*, 164.

about the declining sales of one of its best products, Abbott's approach was measured and balanced, pitched between ensuring the continued medical applications of amphetamines and controlling illicit uses that might undermine the drugs' legitimacy entirely. In hearings to consider the 1971 Senate bill (S. 674) to move the amphetamines and other psychostimulants from Schedule III to Schedule II, Utt explained to Chairman Birch Bayh that placing the drugs in Schedule II would likely have a detrimental effect on sales of the drugs, but the continued ability of physicians to prescribe them, even if more conservatively, was more important to the firm.

Outright opposition to the proposed tightening of controls was not necessarily absent from the proceedings. Bariatricians, whose profession stood to be most affected by the new regulations, voiced the loudest cries of dissent. W. L. Asher, the executive director for the American Society of Bariatrics, expressed his specialty's dilemma in a letter to Eagleton. While complementing the senator on his zeal for doing something "tangible" about the growing drug abuse problem, he warned that physicians might suffer unfairly. Asher noted that most bariatricians affiliated with his society dispensed only enough amphetamine to last 28 days and would only write another prescription after an in-person visit by the patient. Despite their potential for abuse, "amphetamines, in spite of all of their shortcomings, are the only classes of pharmacologic agents which may be of use in restraining the eating habits of the obese millions" in the United States, Asher contended.²²

While Eagleton and Asher disagreed on the specifics of how to address the problem of illicit amphetamine use, both men agreed on a need to ensure that legitimate

²² W. L. Asher, Englewood, CO, to Thomas F. Eagleton, Washington, DC, November 11, 1970, *Legislative Hearings on S. 674*, 82-83.

medical uses by doctors were not undermined by issues of illicit production, smuggling, and street-level abuse.²³ The two sides were amenable to each other as long as the right of physicians to continue their practices was not imperiled. Such cordiality was pierced, however, when Asher wrote to Eagleton several months later to express renewed concern that the “lawmaking prerogatives of Congress are being usurped by various Government agencies, namely the BNDD.”²⁴ At issue were the plans revealed by the BNDD to assign amphetamines to Schedule II status. Such a move flew in the face of what Asher understood to be the Congress’s original mandate in the passage of the Controlled Substances Act, not to mention the position statements of AMA and other medical leaders. Expecting sympathy from Senator Eagleton on this matter, Asher was shocked and angered when he received a reply that Eagleton intended to tighten the controls through legislative means, as well.²⁵ Perhaps it comes as little surprise that, in the face of an apparent betrayal of trust, representatives from the American Society of Bariatrics declined to testify at the hearings.

Considering Dissent to Controls

In the previous chapter, I suggested that the medical establishment’s growing awareness of the potential for psychostimulant dependency helped alter physicians’ views on their safety and utility. Yet, if many practitioners were convinced of the potential dangers of amphetamines and other psychostimulant drugs by the end of the 1960s, they

²³ Thomas F. Eagleton, Washington, DC, to W. L. Asher, Englewood, CO, 24 November 1970; and W. L. Asher, Englewood, CO, to Thomas F. Eagleton, Washington, DC, December 1, 1970, *Legislative Hearings on S. 674*, 83-84.

²⁴ W. L. Asher, Englewood, CO, to Thomas F. Eagleton, Washington, DC, February 26, 1971, *Legislative Hearings on S. 674*, 84.

²⁵ Thomas F. Eagleton, Washington, DC, to W. L. Asher, Englewood, CO, March 12, 1971, *Legislative Hearings on S. 674*, 85.

did not necessarily concur on their fate. While few doctors would pronounce the psychostimulants as completely safe, many argued that the drugs' therapeutic benefits outweighed their risks. This disagreement with the views of Smith, Griffith, and others can be interpreted in two ways. First, the positions of medical leaders were symbolic of how particular medical specialties differed over the utility of psychostimulants and their fate. Second, and more important, individual physicians vied to gain the ear of policymakers and influence the crafting of regulations in the early 1970s that would shape the future for Benzedrine, Dexedrine, Ritalin, and other similar drugs throughout the English-speaking world. If physicians such as Griffith managed to court favor with regulators, rival physicians who continued to believe that the drugs were still an important part of the therapeutic armamentarium refused to remain silent. Among the most outspoken opponents of amphetamine controls was Heinz Lehmann, chair of the Department of Psychiatry at McGill University in Montreal. Among his many accomplishments, Lehmann was best known for his discovery of chlorpromazine's effects on psychosis.²⁶ Hence, he may be understood as an elite within the field whose disagreement with authorities over amphetamine controls carried particular significance.

In the previous chapter, I noted some similarities between the United States and Canada regarding the regulation of drugs during the late 1960s and early 1970s. Despite the work of such investigatory panels such as the Le Dain Commission of Inquiry into the Non-Medical Use of Drugs, which recommended a loosening of restrictions on cannabis and other drugs, the Canadian federal government followed the United States' move

²⁶ For more background on Lehmann, see Andrea Tone, "Heinz Lehmann: There at the Revolution." *Collegium International Neuropsychopharmacologicum Newsletter* (March 2004):16–17; Heinz Lehmann, "Psychopharmacotherapy," interview with David Healy, in David Healy, *The Psychopharmacologists* (London: Arnold, 2001), 159–86; and Shorter, *History of Psychiatry*, 246–253.

toward stricter controls during the early 1970s. As a sign of such a direction, A. B. Morrison, assistant deputy minister for the Ministry of National Health and Welfare, recommended in August 1972 that restrictions be placed upon the medical applications of amphetamines and a number of related classes. Effective January 1, 1973, physicians would be allowed to prescribe amphetamines for narcolepsy, hyperkinetic disorders in children, mental retardation (specifically, minimal brain dysfunction), epilepsy, Parkinsonism, and hypotension in patients under anesthetic sedation.²⁷ While a relatively wide array of indications for amphetamines were still to be permitted under the new regulations, a number of notable uses for the drugs, such as the treatment of depression and management of obesity, were excluded. But even more onerous was a requirement that practitioners could not provide prescriptions for more than 30 days, and they had to notify the Ministry of National Health and Welfare regarding the name and address of the patient, the drug prescribed and its form and dosage, and the name and date of the practitioner. Physicians who wished to administer the drug for longer than 30 days were required to obtain a second opinion from a colleague to confirm the initial diagnosis. In such cases, more detailed information was required by the Ministry.²⁸

As I noted in Chapter 2, Lehmann had undertaken a series of studies during the 1960s to explore psychopharmacology's promise for the treatment of mental illness. His expertise had prompted the Ministry of National Health and Welfare to approach Lehmann about serving as the Chairman for the Special Advisory Committee on the uses

²⁷ A. B. Morrison, Ottawa, Ontario, letter addressed "Dear Doctor," December 28, 1972, Heinz E. Lehmann papers, International Neuropsychopharmacology Archives, American College of Neuropsychopharmacology, Vanderbilt University, Nashville, TN.

²⁸ Ibid.

of amphetamines for behavioral disorders. However, Lehmann demurred and his colleague and friend, psychiatrist Thomas A. Ban, was chosen to lead the panel.

In December 1972, less than a month before the new controls on amphetamines were to take effect, Lehmann sent a scintillating letter to Marc Lalonde, the Minister of National Health and Welfare for Canada. Lehmann responded vociferously to the pending regulations. Writing as a “concerned physician,” he explained his reasons for turning down the chairmanship of the Advisory Committee. Having served as a member of the La Dain Committee, Lehmann expressed his fears that such committees were designed less as a “worthy guide to Government” and more as an “endorsement of courses of action already predetermined within [Lalonde’s] department.”²⁹ While the report of the La Dain Commission, published earlier in 1972, had been largely praised as a thorough study into the issues of drug use, the recommendations were largely ignored by federal authorities. Lehmann feared that the committee convened to study amphetamines would suffer a similar fate. Referring to a recent article in the *Globe and Mail*, Lehmann suggested that his concerns were justified when it was revealed that,

This committee, headed by Dr. T. A. Ban, director of the psychiatry department at Montreal’s Douglas Hospital, initially also recommended amphetamines be used for treating certain forms of depression (called reactive depression) for short periods of time (less than 14 days). But this recommendation was dropped after conversations with Health Department officials.³⁰

Referring to this particular quote, Lehmann observed,

I cannot understand what type of ‘conversations with Health Department officials’ could negate the considered opinion of a group of medical experts convened by

²⁹ Heinz E. Lehmann, Montreal, QC, to The Honorable Marc Lalonde, Ottawa, ON, December 8, 1972, Heinz E. Lehmann papers, International Neuropsychopharmacology Archives, American College of Neuropsychopharmacology, Vanderbilt University, Nashville, TN.

³⁰ “Amphetamines for Athletes, Fatigue are Opposed,” *Globe and Mail*, December 6, 1972.

your Department as a committee for the defined purpose of assisting the Health Department to arrive at medically sound decisions.³¹

While bothered that, among other things, a suggestion to allow the temporary use of amphetamine-like stimulants such as fenfluramine as a maintenance drug to help wean addicts from their dependency on amphetamines was ignored, Lehmann maintained that his intention was not to defend or attack the drugs in question. Rather, he viewed the haste with which the proposed 1973 controls were being implemented as a possible “attack on the medical profession and its capability to serve and safeguard the health of our citizens.”³²

In a diplomatic reply to Lehmann’s letter, Minister Lalonde expressed his condolences that Lehmann had been unable to serve as the chairman of the committee. Nevertheless, he contended that regulations on amphetamines resulted from months of negotiations with representatives from the various medical associations in Canada and that such decisions were based on scientific and medical advice. In response to Lehmann’s accusations, Lalonde asserted that while such sentiments were understandable, the recommendations made by the various committees were not identical and that discussions with the various chairmen were required to arrive at a final decision.³³ In addition to deflecting Lehmann’s charge of politicization, Lalonde went further to assert that “the amphetamine regulations aim only at contributing towards the solution of a problem that has been of serious concern to the profession.”³⁴

³¹ Lehmann to Lalonde, December 8, 1972.

³² Ibid.

³³ In addition to Ban’s committee, the 1970 Zsoster Committee had investigated the medical use of stimulants and sedatives, and the Henderson Committee.

The issue between the two men was a matter more profound than the legal status of a class of drugs. At stake was the role that the medical profession and its individual practitioners would play in determining what was best for their patients. In an article published in the *Medical Post*, Lehmann conceded that 70 to 80 percent of amphetamine prescriptions were for the effects as anorectics in the management of obesity. But whereas many colleagues in both the United States and Canada viewed the potential overprescription of stimulants to patients for weight loss as a problem to be addressed, Lehmann considered the other side of the issue, that “removing the physician’s freedom to prescribe amphetamine or one of its derivatives (phenmetrazine or phendimetrazine) is essentially questioning the judgment and medical ability of the doctor.”³⁵ Lehmann applied this same logic to other issues such as hyperkinesis in children and depression in adults. While recognizing that the administration of psychostimulants for such disorders was contentious, Lehmann nevertheless argued that such decisions were best left in the hands of individual physicians. Certainly, he acknowledged that amphetamines were not suitable for all types of depression and should only be used sparingly after consultation with a psychiatrist, but for Lehmann the issue was whether the calculated risks associated with their prescription should remain one of medical choice: “To me, it is a very peculiar kind of mixture when the law and the government begin to tell you for what pathological conditions a drug may be prescribed.”³⁶ Such ire over government intervention could also be found in Lehmann’s rejoinder to Lalonde in January 1973. Noting with “regret” the

³⁴ Marc Lalonde, Ottawa, ON, to Heinz E. Lehmann, Montreal, QC, January 22, 1973, Heinz E. Lehmann papers, International Neuropsychopharmacology Archives, American College of Neuropsychopharmacology, Vanderbilt University, Nashville, TN.

³⁵ Heather Carswell, “Ottawa Said ‘Just Meddling’ in Amphetamine Issue,” *Medical Post*, August 8, 1972.

³⁶ *Ibid.*

new regulations, he remained convinced that the new controls were “unnecessary and unneeded.” Furthermore, Lehmann responded that one chairman he personally knew was not approached by the Ministry for further discussion after the committee had submitted its findings, “which were then to a considerable extent simply disregarded by the Government.”³⁷

The *Medical Post*, a leading newspaper for physicians in Canada, covered the issue extensively during late 1972 and early 1973. While interested in advancing the facts about the upcoming regulations and clarifying potential misunderstandings, a number of articles subtly suggested the loss of physician power to determine the best course of treatment for some patients, as well as the potential punishments for practitioners who failed to comply with the new law. In one case, the *Medical Post*’s editor openly lashed out against the law, and curiously siding with SKF’s position that the proposed controls were unwarranted. On December 20, 1972, William M. Robson, the president of SKF Canada, sent a telegram to Lalonde to ask that he reconsider the legislation. While it might be easy to dismiss Robson’s telegram as a last-ditch effort on the part of one of the world’s largest manufacturers of amphetamines to rescind or postpone a measure that threatened the company’s very livelihood, the editors of the *Post* determined that Robson’s communication made some good points and merited serious attention. Echoing arguments made repeatedly by Lehmann in his correspondence with Minister Lalonde, Robson pointed out that amphetamine prescriptions in Canada had been on the decline

³⁷ Heinz Lehmann, Montreal, QC, to The Honorable Marc Lalonde, Ottawa, ON, January 31, 1973, Heinz E. Lehmann papers, International Neuropsychopharmacology Archives, American College of Neuropsychopharmacology, Vanderbilt University, Nashville, TN. I infer that Dr. Lehmann is referring here to Dr. Ban, as corroborated by Lalonde’s response to this letter four weeks later.

since 1966, suggesting that physicians had made their own re-evaluation of the safety of amphetamines without any need for prodding by the government.

But what bothered Robson and the editors the most was the perceived philosophy behind the amphetamine restrictions: Even in light of the reported reduction in physician prescriptions of amphetamines (up to 77 percent according to some claims), the Ministry had decided to take it upon themselves to limit physicians' application of the drug to only six disorders and to place strictures on even those uses. "Why then is the government restricting the physicians' use of amphetamines and thereby infringing on the profession's traditional right to select medication and procedures in the best interest of the patient?" the editors queried. Were such a philosophy espoused by authorities carried to its logical end, "the time may come when a physician must carry around a little government handbook telling him what he can or cannot prescribe," they warned. At the heart of such probing questions posed by both representatives from the pharmaceutical industry and the medical press were fears that practitioners would be reduced to "handbook robots" unable to think for themselves and lacking the trust to act on their own intelligence and training.³⁸

While some quarters of the medical establishment took an opposition stance regarding amphetamine restrictions, not everyone did. In particular, the Canadian Medical Association (CMA) and the Association des Medecins de Langue Francaise du Canada (Canadian Association of French Speaking Physicians, or AMLFC) seemed more ambivalent regarding the impact of the legislation. In a letter to the editor of the *Canadian Medical Association Journal (CMAJ)*, Laurent Constantin, vice president and medical director for SKF Canada, suggested that both associations were taking

³⁸ "Unwarranted Regulations," *The Medical Post*.

paradoxical positions on the matter. Referring to a report in the January 6, 1973, issue of the *CMAJ* expressing regret that such legislation was necessary while simultaneously acknowledging the role of the pharmacy profession and pharmaceutical industry in eliminating misuse, Constantin hinted at the CMA's inconsistencies. He was particularly troubled by the CMA's earlier insistence to the Le Dain Commission that education and "voluntary restraint" should form the core of the approach to correcting physician misuse of such drugs. The association's decision to reverse course and support the proposed controls struck Constantin as hypocritical and even dangerous. By backing away from this earlier stance to accept, however grudgingly, a need for actual regulations, Constantin argued that "the only conclusion...that can be drawn from the acceptance of the C.M.A. [sic] of the new regulations is a willingness to accept government intervention...[that] sets a dangerous precedent for even more government control and decision making by government as to how doctors should practise [sic]."³⁹

The leadership of the CMA did not take such accusations lightly. In his reply to Constantin, CMA Secretary General J. D. Wallace responded that he could not agree with the assertion that acceptance of the new regulations by the Association indicated a patent willingness to accept government intervention. In fact, the situation might have been more dire had the CMA and AMLFC not become involved in the first place, as Wallace retorted:

I can assure you that the controls established...would have been more rigid than those that went into effect....In other words, had the only action of the Associations been to sit back and do nothing but express a negativistic viewpoint, we would likely have accomplished far less for the Profession than the result that was eventually achieved. On the basis of publicly expressed government policy it

³⁹ Laurent V. Constantin, Montreal, QC, to Editor, Canadian Medical Association Journal, Ottawa, ON, January 12, 1973, Heinz E. Lehmann papers, International Neuropsychopharmacology Archives, American College of Neuropsychopharmacology, Vanderbilt University, Nashville, TN.

was evident that controls on amphetamines would be established, with or without our participation in the preparatory phase of regulations...I can assure you that a great deal was accomplished by such participation.⁴⁰

The social and political environments of the United States and Canada were not identical, but there were enough similarities between them regarding the increased controls on amphetamines and other drugs during the late 1960s and early 1970s to permit an analysis germane to both nations. Particularly true in this regard is the issue of the various players in the controversy and understanding their positions on the matter of amphetamine regulation. While a number of medical authorities in both the United States and Canada lent their expertise to those policymakers interested in better controlling a medical profession that was too freely prescribing psychostimulant drugs, the position of Heinz Lehmann suggests that such views were not uniform. Having already served on one commission whose findings he believed were largely ignored by the government, Lehmann railed against controls he believed were motivated by political expediency rather than sound research. Lehmann's opposition position was buttressed by support from within the medical press.

Pharmaceutical firms such as SKF, which clearly stood to lose profits if legislation passed that limited the prescription of lucrative drugs, joined in a peculiar alliance with some medical leaders. For their part, the editors of the *Medical Post* acknowledged the self-serving motivations of the company, and the exchange between Constantin and Wallace on the matter suggests that SKF was cloaking itself in a veil of objectivity to assail those groups whose views were not congruous with their own. Nevertheless, the company's argument that physician decision making was imperiled by

⁴⁰ J. D. Wallace, Ottawa, ON, to Laurent V. Constantin, Montreal, QC, January 15, 1973, Heinz E. Lehmann papers, International Neuropsychopharmacology Archives, American College of Neuropsychopharmacology, Vanderbilt University, Nashville, TN.

the pending legislation found favor with at least some voices within the medical establishment.

On the one hand, there were those in favor of enacting stronger controls on amphetamines, particularly Lalonde and the selected medical experts whose conclusions supported the legislation. Conversely, there were those who spoke out against the policymaking and argued that such decisions were more political than scientific. Yet, the position of the CMA and other like-minded associations suggests that there was also a middle ground. By negotiating the space between these two extremes and attempting to mediate both positions, the leadership of the CMA asserted that its role was not as irresolute as Constantin suggested. It functioned pragmatically as the key broker between the two sides.

What are we to make of these various positions? First of all, Wallace's use of "Profession" with a capital "P" in his correspondence with Constantin is revealing. Each of these groups claimed to speak for the medical profession with great verve. Perhaps the shrillest cries came from Lehmann and his colleagues at the *Medical Post*, whose fears that physicians would be reduced to automatons unable to think and act freely as healers. Federal assertions that misuse of amphetamines remained intractable problems were almost as strident. If not as loud in the dialogue, the position of the CMA as expressed in its journal suggested that, in fact, speaking for the "Profession" meant acknowledging that both sides had merit.

Putting Controls into Practice

At the end of the previous chapter, I considered briefly how American policymakers began to respond to the proliferation of the "amphetamine cultures" during

the late 1960s and early 1970s. As I noted, the most important development was passage of the 1970 Controlled Substances Act. While the law represented a watershed in American drug regulation, it is important to bear in mind two key points. First, while the law remains in effect today and is the cornerstone of federal enforcement efforts via the Drug Enforcement Administration (DEA), the Act's finer points have changed during the past four decades. Second, the passage of legislation was a necessary but not sufficient action on the part of lawmakers to effect the controls they sought for drugs such as amphetamines. Efforts to enforce the regulations were required, and this endeavor was carried out by agencies and individuals with their own goals and interpretations of the legislation. Like the Controlled Substances Act itself, enforcement efforts also changed over time and frequently involved a process of negotiation, and re-negotiation, with the historical actors involved, including pharmaceutical manufacturers, physicians, policymakers, and drug consumers.

Before the BNDD could begin its efforts to enforce the Controlled Substances Act, a major obstacle faced by the Bureau was establishing knowledge regarding the production, importation, and exportation of amphetamines.⁴¹ Since one of the cornerstones of the new regulations was the establishment of production quotas, such information was crucial to authorities. In 1962, the FDA conducted the first major survey of amphetamine and barbiturate production in the United States. The testimony of then Commissioner George Larrick to the Senate during consideration of what would become the Drug Abuse Control Amendments of 1965 suggests the problem faced by the FDA at the outset of controls. Larrick revealed to the Senate that the FDA's survey of production was inaccurate because records maintained by several basic manufacturers were

⁴¹ McGlothlin, *Amphetamines, Barbiturates, and Hallucinogens*, 10.

incomplete and because two of the nation's largest pharmaceutical firms declined to provide requested information.⁴² Despite this gap, Larrick surmised that there was enough basic material produced in 1962 to make “over 9 billion doses of barbiturates and amphetamines.”⁴³ The fact that the FDA, at another point, described the same 1962 survey as recording amphetamine production as sufficient to manufacture 4.5 billion 10 milligram tablets of amphetamine, only to then estimate production at 8 billion tablets or more, suggests the disarray of knowledge surrounding amphetamine production during the early 1960s.⁴⁴

The situation began to improve somewhat in 1966, when the Bureau of Drug Abuse Control (BDAC) began an independent survey of amphetamine production following the passage of the 1965 Amendments.⁴⁵ At the time the first quotas were established in 1971, the BNDD had obtained detailed information on bulk amphetamine production, either for intra-firm formulation or for sale to other companies, from the three main producers in the United States. In his analysis of these figures, UCLA researcher William McGlothlin suggested that questions needed to be raised about the accuracy of production data prior to the anticipation of the 1971 controls.⁴⁶ While Congressional hearings bearing such evocative titles as “Crime in America – Why 8 Billion

⁴² John Walsh, “Psychotoxic Drugs: Dodd Bill Passes Senate, Comes to Rest in the House; Critics Are Sharpening Their Knives,” *Science* 145, no. 3639 (September 25, 1964): 1418-1420. It was not revealed which two manufacturers declined to participate.

⁴³ Ibid.

⁴⁴ D. W. Byles, “Abuse Control and the Drug Industry,” in J. Robert Russo, ed., *Amphetamine Abuse* (Springfield, Ill.: Charles C. Thomas, 1968).

⁴⁵ The BDAC was a bureau within the Department of Health, Education & Welfare, under the jurisdiction of the FDA. In 1968, it was merged with the Bureau of Narcotics in the Department of the Treasury to create the BNDD.

⁴⁶ McGlothlin, *Amphetamines, Barbiturates, and Hallucinogens*, 15.

Amphetamines?” hinted at the magnitude of the problem, their credibility was undermined by figures that apparently overestimated amphetamine production by 25 to 40 percent for the years preceding 1969. Even academic studies such as Grinspoon and Hedblom’s *The Speed Culture*, which estimated production in 1971 at 12 billion dosage units, were considered by subsequent researchers as “simply gross exaggerations without any basis.”⁴⁷

The imposition of stricter controls on amphetamine production and distribution certainly deprived some companies of profits, and regulations on their prescription and possession placed limits on physician and patient alike. But an unambiguously positive outcome of the 1971 legislation moving the psychostimulants to Schedule II status and its subsequent enforcement was a reliable census of drug production. While policymaking in the years prior may have been somewhat more permissive regarding stimulant drugs, it was nevertheless informed by inaccurate information. If subsequent legislation and enforcement efforts were more rigorous, at least they could be driven by more reliable data.

For an indication of how problematic the estimates that drove amphetamine policymaking were, one need look no further than Raymond Gosselin’s National Prescription Audit (NPA). Based on his research while a master’s student at the Massachusetts College of Pharmacy in 1950, the audit relied on population-stratified random sample of Massachusetts pharmacies for its findings. It grew larger in scope to

⁴⁷ McGlothlin, *Amphetamines, Barbiturates, and Hallucinogens*, 16. The key problem with Grinspoon and Hedblom’s figure may have been the estimation of dosage units at 5 milligrams rather than a more realistic 10 milligrams.

the point that, within a decade, pharmaceutical industry executives conceded that the NPA of R. A. Gosselin & Co. was more accurate than their own information.⁴⁸

Regarding amphetamines and methamphetamine consumption, the Gosselin NPA revealed that between 1968 and 1971, the total number of prescriptions dropped from around 23 million to 16 million. If the figures for the first half of 1972 are extrapolated, then the number of prescriptions for that year totaled around 8 million, dropping by almost in just a year's time. The dramatic decline in amphetamine prescriptions is also revealed when considering both the drop in dosage units and total weight. The decline in both amphetamine and methamphetamine prescriptions was especially marked between 1971 and 1972 (extrapolating the first six months of data for the entire year), as both were essentially cut in half (See Tables 6.1 and 6.2).

⁴⁸ Richard J. Hull, "Marketing Concepts," in *Workings and Philosophies of the Pharmaceutical Industry*, ed. Karl Reiser (New York: National Pharmaceutical Council, 1959), 57. My thanks to Jeremy A. Greene, whose book *Prescribing by Numbers*, led me to this resource. Also, I received invaluable background on Gosselin and the NPA from Jeremy A. Greene, "Pharmaceutical Marketing Research and the Prescribing Physician," *Annals of Internal Medicine* 146, no. 10 (May 15, 2007): 742-748.

Table 6.1 - Number of Prescriptions for Amphetamine and Methamphetamine, 1968-1972 (first six months) (*Source: Gosselin National Prescription Audit, cited in McGlothlin, Amphetamines, Barbiturates, and Hallucinogens*)

| <u>Year</u> | <u>Amphetamine and Methamphetamine</u> |
|---------------------------------|--|
| 1968 | 23,004,000 |
| 1969 | 22,026,000 |
| 1970 | 20,782,000 |
| 1971 | 16,230,000 |
| 1972 (1 st 6 months) | 4,098,000 |

Breaking down these statistics further, it is possible to ascertain both the number of dosage units and amount of drugs prescribed, in kilograms:

Table 6.2 – Dosage Units and Amount Prescribed, in Kilograms, of Amphetamine and Methamphetamine, 1970-1972 (first six months) (*Source: Gosselin National Prescription Audit, cited in McGlothlin, Amphetamines, Barbiturates and Hallucinogens*)

| | <u>1970</u> | <u>1971</u> | <u>1972 (1st 6 months)</u> |
|------------------------------------|--------------|--------------|---------------------------------------|
| Dosage units (in millions) | | | |
| Amphetamine | 533 | 486 | 135 |
| Methamphetamine | <u>208</u> | <u>208</u> | <u>45</u> |
| Total | 741 | 694 | 180 |
| Number of kilograms | | | |
| Amphetamine | 6,522 | 5,823 | 1,583 |
| Methamphetamine | <u>2,453</u> | <u>2,420</u> | <u>540</u> |
| Total | 8,975 | 8,243 | 2,123 |
| Mean dosage units per prescription | 35.7 | 42.8 | 43.9 ⁴⁹ |

⁴⁹ R. A. Gosselin & Co., quoted in McGlothlin, *Amphetamines, Barbiturates, and Hallucinogens*, 18.

These figures convey a great deal of insight about the prescription and supposed consumption of amphetamines in the years immediately preceding and following the passage of the Controlled Substances Act. Most obviously, they suggest how drastically the prescription of amphetamines dropped following their reclassification as Schedule II substances in July 1971. Were the figures for the first 6 months doubled to provide an estimation for the entire year, it would be evident that dosage units for amphetamines were half those prescribed the previous year. At the same time, however, it may be suggested that amphetamine consumption had been steadily declining in the years immediately preceding the passage of the Controlled Substances Act.

Another insight gleamed from these figures is a scope of how supposed production figures were incongruous with actual prescription and consumption of the drugs. If eight billion amphetamine tablets were really being manufactured annually during these years, then prescriptions for only 741 million tablets were being filled by pharmacies. Even if one were to take into account direct dispensing by physicians at this time, that figure would increase only by about 4 million tablets.⁵⁰

Dealing with Diversion

Despite coming to grips with overestimates of amphetamine production, there remained discrepancies between total production and the legitimate distribution of amphetamines. Of particular concern to the BNDD during the early 1970s were four illicit sources of drug diversion: prescription forgeries, drug thefts from institutions such as hospitals, domestic clandestine manufacture, and smuggling. Each of these means had their own complicating factors. Forgeries and prescriptions acquired by other fraudulent

⁵⁰ See U.S. Congress, "Amphetamines Legislation 1971, Hearings before the Subcommittee to Investigate Juvenile Delinquency of the Committee on the Judiciary," Senate (Washington, D.C.: Government Printing Office: 1971), 421.

methods were generally counted along with legitimate prescriptions, making them difficult to track. Likewise, consumer level thefts, from hospitals, the military, or household supplies (but not pharmacies), were rarely disaggregated from tallies of legitimate retail sales, also making their scope difficult to assess.

Nevertheless, diversion of licitly manufactured amphetamines was an issue of great importance to the BNDD during the early 1970s. Such activities took place at all levels, from thefts of bulk manufacturer supplies down to adolescents stealing drugs from the household medicine cabinet. While there were a few documented instances of intentional diversion involving the management of large manufacturing and wholesaler firms, the BNDD reported that such actions were relatively rare. More often, diversions at the firm level were the result of thefts, employee collusion, or fraudulent representation on the part of the buyer, with the largest thefts involving bulk material at the manufacturing level. One documented case from 1968 resulted in the loss of almost 500 pounds of methamphetamine, which would have accounted for seven percent of the estimated retail sales of that drug.⁵¹ In order to combat such issues, the BNDD began keeping track of manufacturer and wholesaler violations of security and record-keeping regulations in 1971. A General Accounting Office review of these activities found that 550 follow-up investigations by BNDD resulted in 151 seizures of drugs, including 48 million dosage units of amphetamine, representing about 4 percent of the estimated retail sales for the previous year.⁵² Findings such as these suggest both the scope of diversion at

⁵¹ Kenneth A. Durrin, "Diversion as a Factor in Illicit Drug Traffic," *Drug and Cosmetic Industry* 107, no. 2 (August 1970): 28-30, 126-127.

⁵² U.S. General Accounting Office, *Efforts to Prevent Dangerous Drugs from Reaching the Public* (Washington, DC: Bureau of Narcotic and Dangerous Drugs, 1972).

the manufacturer level, as well as the BNDD's response to the implementation of more rigorous controls.

Another issue faced by federal authorities regarding the diversion of amphetamines was the export of American manufactured drugs, including amphetamines and barbiturates, to Mexico and their suspected illicit return to the United States. By the early 1960s, Mexican pharmacies became a convenient source of non-prescription stimulants. In some instances, single purchases from pharmacies were reported in the hundreds of thousands of dosage units.⁵³ Following the passage of the Drug Abuse Control Amendments of 1965 in an attempt to address illegal amphetamine trafficking, the BNDD began to collect and provide more information on this issue. In one instance, an unnamed American firm shipped 950 kilograms of bulk amphetamine to a Mexican subsidiary during a 17-month period. The raw drug was formulated into tablet form and then illegally smuggled back into the United States for distribution.⁵⁴ A more celebrated case involved the diversion of amphetamines, some 15 million dosage units over a 10 year period, to a fictitious address corresponding to the 11th hole of the Tijuana Golf Course.⁵⁵

What of other means of diversion too difficult to track? The large number of retail and hospital pharmacies made the monitoring of distribution at this level virtually impossible, while the regulation of routine sales was generally the legal purview of the states. Such efforts to stem illicit activity usually involved annual routine checks of a

⁵³ *Crime in America*, 100.

⁵⁴ W. W. Vodra, "Amphetamines, Barbiturates, and Synthetic Hallucinogens," unpublished manuscript, 1972, cited in McGlothlin, *Amphetamines, Barbiturates, and Hallucinogens*, Appendix A, 3.

⁵⁵ *Crime in America*, 371-393.

fairly large sample of pharmacies, coupled with a small number of in-depth investigations. Pharmacy investigators for the state typically examined a sample of prescriptions for gross evidence of forgery, along with depending on their skill for detecting irregularities on the prescription form rather than a systematic check of the prescribing physician's records.

When considering the issue of amphetamine diversion during the 1970s, it is important to bear in mind that the phenomenon differed across different parts of the country. For example, diversion of domestic sources of amphetamines tended to be more common on the East Coast of the United States. But stricter controls over physician prescribing, an increasing awareness of illicit drug use by pharmacists and pharmaceutical wholesalers, and the growing sophistication of local and state narcotics enforcement officers in California meant that the amphetamines from the West Coast were less frequently diverted. Rather, illicit amphetamines in this region came from illegally manufactured and imported sources.

The Intersection between Illicit Activities and Enforcement

Of particular concern to lawmakers during the late 1960s was the implication of stimulant drugs in violent crime. However, a search of state court cases for the years before 1970 reveal that only eight homicide cases involved amphetamines in some way.⁵⁶ In the next, the implication of the drug in the most violent of crimes increased to 53 cases.⁵⁷ Such a finding suggests that while violent crime may have been a concern and its

⁵⁶ Here, I rely upon the LexisNexis database for my queries. I searched state court cases utilizing the search terms "amphetamine" and "homicide" for all dates before January 1, 1970. There are some limitations for using LexisNexis as a research tool, as it is possible for cases to be excluded from the database. In addition, appeals cases and other court activity not related to the original criminal proceedings in this particular area of interest may also slightly alter the findings. Nevertheless, for tracking broad trends related to judicial activity over time, LexisNexis can be a useful tool for historians.

perpetration by people under the influence of amphetamines was not unheard of during the so-called “speed years” of the 1960s and before, the imposition of controls to keep such substances out of the hands of non-medical users did not result in an abatement of crime associated with these drugs.

As I have suggested, the conceptualization of extramedical stimulant use as a set of distinct cultures provides one vehicle for understanding the motivations of amphetamine consumption among certain groups of people. Many of these users had rational, if not completely licit, reasons for their drug use, ranging from weight loss to staying awake on long drives. However, the idea that such cultures were generally innocuous and sustainable collides with the more horrific outcomes of amphetamine consumption—crimes as the result of amphetamine abuse and the phenomenon of amphetamine psychosis. Such problems punctured holes in the notion that amphetamine consumption was inherently safe, while buttressing medical and regulatory opinion that greater controls were needed.

At the 1970 annual meeting of the American Psychiatric Association in San Francisco, psychiatrist Everett Ellinwood, Jr. presented the case histories of 13 individuals who had committed homicides while high on amphetamines. Notable about Ellinwood’s presentation was his articulation of the distinct pharmacological properties of amphetamines that, when consumed in excess, could lead abusers to commit such heinous crimes. While crime has been linked to alcohol and narcotics, the association of amphetamines and other stimulants with aggression and violence were of specific concern to medical authorities. The consensus among those professionals who worked with drug abuse, Ellinwood claimed, was that opiates did not tend to induce unwarranted

⁵⁷ Here, I searched using the same terms for dates between January 1, 1970 and January 1, 1980.

violence, while alcohol and other sedatives were generally associated with an incidence of violence secondary to a lowering of impulse control. Contra these drugs, amphetamines were linked in reports from law enforcement personnel and psychiatrists with aggressive behavior as a primary effect of overconsumption.⁵⁸ To prove his point, Ellinwood presented the case of 27-year-old truck driver who shot his boss in the back of the head because he believed his employer was trying to release poison gas into the back seat of the car in which he was riding. Prior to the incident, the truck driver had spent the previous 20 hours making a nonstop 1,600 mile trip in which he had ingested 180 milligrams of amphetamine and had not slept for 48 hours. The driver's normal dose was generally no more than 40 milligrams.⁵⁹

Crimes stemming from the overconsumption and abuse of drugs were not limited merely to their extramedical use, as a bizarre murder case from Georgia attests. Dr. William Henry Johnson was forced to retire from medicine in 1970, following an automobile accident in which his narcolepsy had been the cause. Johnson sought the help of a local doctor, who prescribed him Ritalin to help him control his sleeping disorder. However, the doctor seen by Johnson took little initiative in treating his patient, but left him to dictate his own treatment.⁶⁰ Johnson had tried several other medications, but he found that the injectable form of Ritalin worked best for his disorder. While Ritalin did provide a measure of relief for Johnson's narcolepsy, Ciba ceased production of the intravenous form of Ritalin in February 1974. According to the court documents, Dr.

⁵⁸ Everett H. Ellinwood, Jr., "Assault and Homicide Associated with Amphetamine Abuse," in Francis Antony Whitlock et al., *Amphetamines: Medical & Psychological Studies* (New York: MSS Information Corporation, 1974): 138-139.

⁵⁹ *Ibid.*, 139-141.

⁶⁰ *Johnson v. State of Georgia*, 235 Ga. 486, 487 (1975).

Johnson was no longer able to function and became bed-ridden. He and his wife, with the local doctor's knowledge, thus began to experiment with grinding up Ritalin tablets in a blender and administering the resulting suspension rectally by enema. This avoided the undesirable side effects of taking so many tablets orally, but by Johnson's own testimony, he was uncertain as to the dosage he was consuming. One day, Johnson's son came home to find his stepmother dead from shotgun wounds and his father "in shock or near hysteria and incomprehensible."⁶¹

The authorities involved in Johnson's arrest later testified to his "strange and confused behavior."⁶² In fact, Johnson's cellmate in the county jail even reported that Johnson proclaimed that he was Jesus Christ and later tried to commit suicide by drowning himself in the cell toilet. Johnson was later sent to the state mental hospital in Milledgeville, Georgia, where a staff psychiatrist diagnosed him with toxic psychosis, resulting from "either an overdose or withdrawal from Ritalin, or a combination of excessive use of Ritalin and excessive use of Darvon and alcohol."⁶³ Johnson would later testify at his trial for murder that during the week he killed his wife, he told her that he had decided to stop taking Ritalin, and he ordered her not to give him any more. However, he did not remember the murder taking place.

These cases demonstrate that cultures of amphetamine use could be tainted by crimes that defined the limits of a drug-consuming culture and also hinted at its possible dissolution. Another issue was that of amphetamine psychosis, first described in 1938 by D. Young and W. B. Scoville but given its first detailed description by British

⁶¹ Johnson v. State of Georgia, 488.

⁶² Ibid.

⁶³ Ibid.

psychiatrist Philip Henry Connell some two decades later.⁶⁴ In his study, Connell demonstrated that an overconsumption of amphetamines could lead to a condition similar to, but distinct from, schizophrenia. Extremely high doses of amphetamines can produce a psychosis that results in paranoia, delusions of persecution, and auditory and visual hallucinations while fully conscious. While most closely associated with the use of amphetamines by “speed freaks,” more conservative extramedical and even medical uses of amphetamines could result in similar ends for some users.

In one case, a 24-year-old mother of two was admitted to a Michigan hospital with the chief complaint, “It started when I took diet pills; things went crazy.” Since the age of fourteen, the woman had been treated with amphetamines by a diet doctor, continuing to use the drugs over the years without any ill effect. Then one month prior to being admitted to the hospital, the woman began increasing her intake of methamphetamine, against her physician’s advice, from 30 milligrams to 72 milligrams per day, in order to “maintain her feeling of pep.” Such overconsumption continued and the woman began to experience perceptual problems and hallucinations and act suspicious toward her coworkers, only to become uncontrollably agitated by the time she was admitted to the hospital.⁶⁵

Several cases from these years demonstrate the extent to which the illicit use of amphetamines could be implicated in heinous crimes. For example, amphetamine use was implicated in a triple homicide case from Alabama in 1976, in which a man was

⁶⁴ D. Young and W. B. Scoville, “Paranoid Psychosis in Narcolepsy and Possible Dangers of Benzedrine Treatment,” *Medical Clinics of North America* 23 (April 1938): 637-642; Philip Henry Connell, *Amphetamine Psychosis* (London: Chapman and Hall, 1958).

⁶⁵ Edward J. Lynn, “Amphetamine Abuse: A ‘Speed’ Trap,” *Psychiatric Quarterly* 45, no. 1 (March 1971): 92-101.

convicted of killing his ex-wife, former mother-in-law, and another man while his young son watched.⁶⁶ For his crimes the man was sentenced to death in the electric chair. In another case from Colorado, a man under the influence of amphetamines was convicted in 1976 of vehicular homicide and sentenced to five years probation after the passenger in his automobile was killed in a one-vehicle accident.⁶⁷

In another homicide case from Alabama in 1973, Wilton O'Neill Trott was sentenced to life in prison after a conviction of murder in the first degree. Following the conviction, he appealed the case on the argument that he had been improperly questioned by authorities and unwittingly given a confession while under the influence of amphetamines. On the day of his arrest, Trott testified that he had purchased about 100 "bennies" (i.e. Benzedrine tablets) at a nearby truck stop, only to drive to Mobile and purchase fifty more. He had consumed all these pills prior to his arrest, and he had taken about twenty-five the day of his arrest, the last one two hours before his arrest. Trott's admission of guilt during questioning would be complicated by the fact that authorities pursued the confession while he was still under the influence of amphetamines. During an appeal after Trott's conviction, C. B. Relfe, a licensed physician in the State of Alabama, testified as an expert witness that a person under the influence of these pills would have less will to resist interrogation due to fatigue. In light of such strong testimony that authorities ignored Trott's state of mind while on drugs, the judges in the case overturned the original conviction.⁶⁸

⁶⁶ *Dudley Wayne Kyzer v. State of Alabama*, 399 So. 2d 317 (Ala. Ct. App., 1979).

⁶⁷ *People of the State of Colorado v. Robert Clayton McCollum*, 38 Colo. App. 283 (1976).

⁶⁸ *Wilton O'Neill Trott v. State of Alabama*, 51 Ala. App. 40 (1973).

“The Speed Years” Revisited

What did the increased efforts by the federal government at increased reform and regulation mean for the various amphetamine cultures that thrived in the 1960s? Did speed freaks, diet pill consuming housewives, and doping athletes disappear as a result of the Controlled Substances Act and its subsequent enforcement by the BNDD and DEA? Not quite. While Senator Birch Bayh may be credited for spearheading efforts to tighten controls on stimulant production and distribution by reassigning amphetamines, methylphenidate, and phenmetrazine to Schedule II status, he was far less successful in addressing the overprescription and overconsumption of diet pills. The FDA permitted the prescription of amphetamines for obesity as a labeled use of the medication. Concern began to mount following the investigations of Senator Gaylord Nelson of Wisconsin during the mid-1970s. During hearings in the Senate Monopoly Committee on the efficacy of prescription drugs, the senator took a special interest in the amphetamines and expressed particular concern over their application in the treatment of obesity. While Nelson routinely criticized the FDA for its permissive positions regarding the drugs, both Richard J. Crout, director for the Bureau of Drugs, and Frederick Rody, Jr., acting deputy administrator for the DEA, expressed similar concerns during hearings in late 1976.⁶⁹

Despite promises to address the persistent problem of diet pill abuse, federal authorities had yet to act when individual states decided to take the initiative. Among the vanguard in this movement was the state of Wisconsin, which completely banned the use of amphetamines for dietary purposes in November 1977. The impetus for the state's action in this matter reportedly began after David Joransen, a researcher for the state's Controlled Substances Board, observed some strange patterns in the sale of

⁶⁹ “Obesity Drug under Fire,” *Chemical Week*, December 1, 1976.

amphetamines. Looking over the 1975 sales figures for Biphedamine 20, a drug marketed by the Pennwalt Company and known causally as “Black Beauties,” he observed that of approximately 1 million doses of the drug sold in Wisconsin that year, more than 118,000 were dispensed by only 26 practitioners. Shockingly, while 20 of those practitioners were allopathic physicians, three were osteopaths, two were dentists, and one was a podiatrist. In short, six non-physicians were responsible for more than 20,000 dosage units being dispensed. Among the physicians, one doctor alone had purchased more 33,000 pills, a second was responsible for 28,000, and a third for 8,200. Another surprising figure revealed that almost half of the 118,000 pills sold by the top 26 were sold in Milwaukee County, while an equal number were sold in sparsely populated Dodge County, which had a large German community, a state prison, “and probably a lot of fat women,” Joransen related to a journalist from the *Washington Post*.

These findings spurred a more comprehensive study and a preliminary decision in June 1976 by Wisconsin’s Department of Health and Social Services to cut off funding for amphetamine products. Confirming that many doctors in Milwaukee had been prescribing large doses of amphetamines to state Medicaid patients, sales of Biphedamine in that city dropped from 25,000 dosage units per month to less than 2,200 units within just a couple months. Meanwhile, a second study revealed that, while Biphedamine may have been the original drug under investigation, Dexedrine, Benzedrine, and Desoxyn were even bigger sellers within the state. Six pharmacies in Sheboygan County, Wisconsin, had purchased more than 5,000 units each in 1976, for a total of 56,000 units. Such was the sensation of the study’s findings that when findings were made public, the

local newspaper, the Sheboygan Press, ran a headline proclaiming “Sheboygan: State Speed Capital.”⁷⁰

Joransen’s findings undoubtedly spurred the November 1977 ban. Perhaps the most notable aspect of the Wisconsin law was the fact that it targeted not only sales of the drugs, but their very prescription. Doctors found prescribing amphetamines as dietary aids faced charges of unprofessional conduct and the threat of having their licenses suspended by the state’s Medical Examiners Board, a power that even the FDA lacked. And just how effective were these efforts? By February 1978, less than four months after the law took effect, authorities reported a dramatic drop in sales. The state’s largest distributor, which served the Milwaukee area, reported a drop of 97 percent in the sale of Biphphetamine 20 pills.⁷¹

The move by states such as Wisconsin to target overprescription by physicians suggests how state governments such as Wisconsin conceptualized the problem somewhat differently than federal authorities had up to that point in time. Rather than addressing the issue of distribution primarily in terms of the quantities of pills that could dispensed or prescribed, some state governments decided to intervene in an area that had long been the purview of the FDA—the actual conditions for which drugs could be ordered as therapies. In the case of Wisconsin, physicians could still prescribe amphetamines for depression, narcolepsy, and hyperkinesis, but no longer obesity, once the November 1977 law took effect.⁷²

⁷⁰ Larry Kramer, “Wisconsin to Show Amphetamine Ban’s Results; U.S. Watching Results of Wisconsin Amphetamine Ban,” *Washington Post*, November 20, 1977.

⁷¹ Larry Kramer, “Diet Use Ban Leads to Drop in Drug Sales,” *Washington Post*, February 17, 1978.

The Wisconsin case was widely covered in the press and especially followed by the FDA. Of his own state's efforts, Joransen noted in the *Washington Post* that, "We see ourselves at the vanguard of getting the other states and the federal government to look at this problem to see that there are other, just as serious, problems besides Schedule I drugs like heroin. These other drugs, like amphetamines, which are used regularly[,] can pose a greater problem because of their availability." In response, the FDA official Stuart Nightingale suggested a fresh investigation of the matter: "When we found out what was going on in Wisconsin, it was a pleasant surprise. Only the states have the power to take away a doctor's license or take other disciplinary action. We can't stop a physician, but we can take other actions that are consistent with what has happened in Wisconsin." Suggesting the role of the states in crafting effective drug policy, he added that they have "the power to move further than the federal government. We think it's a good idea for a state-level action like this to take place. It is much more effective than what we can do."⁷³ Such intervention by the states helped to inform the FDA's thinking, too, as it did when it held hearings in December 1977 on the issue of the overprescription of amphetamines for obesity. As a result of the hearings, which included testimony from Joransen, the FDA proposed an outright ban on the prescription of amphetamines for obesity in July 1979.⁷⁴

Another area of concern throughout the 1970s was the persistent use of amphetamines among athletes. Perhaps no sport was taken more by the issue than football, as evidenced by a high profile drug scandal involving the San Diego Chargers in

⁷² A similar law was enacted in Maryland in 1972, which permitted the prescription of amphetamines for only narcolepsy and hyperkinesis. Physicians were required to report every time such a prescription was written. However, as I note above, the Wisconsin case may be important because it directly presaged action by the FDA on the matter during the late 1970s.

⁷³ "Wisconsin to Show Amphetamine Ban's Results."

⁷⁴ "Cracking Down on Pep Pills," *Newsweek* (July 30, 1979), 66.

1973, the only such public case in the NFL during the decade. The matter involved a San Diego psychiatrist named Arnold Mandell who worked for the team as an unpaid psychiatric consultant between 1972 and 1974, prescribing amphetamines for football players. When the scandal broke publicly, it resulted in a total of \$40,000 in fines levied by the NFL Commissioner Pete Rozelle against Chargers team owner Eugene Klein, general manager Harland Svare, and eight players. After being implicated Mandell became disaffected and began to speak out publicly about his experiences with the Chargers. Following his 1976 publication of a book called *The Nightmare Season*, Mandell was reportedly beset with difficulties from his former employers and investigated for wrongdoing in the scandal. Mandell was reprimanded by the California Board of Medical Quality Assurance for prescribing large amounts of amphetamines for 11 Charger players, on the evidence of prescription forms discovered by NFL security chief Jack Danahy. His defense in the case was that all of these players were longtime heavy amphetamine users who, because of new regulations imposed by the NFL in 1971 to curtail the previously common bulk purchase and distribution of amphetamines by team doctors, had switched to using dangerous “street speed” from street-corner drug traffickers. Mandell claimed he prescribed amphetamines for these men to get them off impure drugs and onto chemicals he knew to be pure so that he could gradually decrease their dosage. Of the four counts brought against Mandell, three were dismissed, but he was found to have “overprescribed” amphetamines for the 11 players in question. His medical license was initially revoked (it was immediately reinstated, but he was placed on five years probation), and his federal license to write prescriptions for all scheduled drugs was stripped.

The incident prompted Mandell to become more publicly active about the problems he saw in the sport. Calling attention to a phenomenon he termed the “Sunday Syndrome,” Mandell interviewed 85 players on other teams within the NFL, finding several patterns about drug usage by players. He found that amphetamine usage in high doses to produce an “analgesic rage” was more common among older players than younger ones and more prevalent among defensive players, especially linemen, than those in skill positions. Breaking down patterns of usage by position among the players he interviewed, it was revealed that one of eight quarterbacks used between 10 and 15 milligrams of amphetamine regularly on game days, six of 11 wide receivers consumed 5 to 15 milligrams, ten of 14 offensive linemen were took 15 to 105 milligrams, eight of 11 running backs used doses ranging from 5 to 25 milligrams, two of two tight ends consumed 10 to 30 milligrams, nine of nine defensive linemen used between 30 and 150 milligrams, five of nine linebackers took 10 to 60 milligrams, and seven of 11 defensive backs used five to 20 milligrams. What the results suggested, Mandell claimed, was that whereas some linebackers, defensive backs, running backs and wide receivers consumed moderate amounts of amphetamine on game days in largely illusory attempts to increase quickness, fight fatigue, and reduce the pain of impact, certain offensive and defensive linesman and “special team” members employed the drug to help “psych” themselves into a belligerent frenzy.⁷⁵

These examples, the continued overprescription of amphetamines by physicians and persistent use of the drugs in sports, suggests that despite serious efforts to come to grips with the problem, elements of the 1960s speed culture persisted at the dawn of the

⁷⁵ Barry Lorge, “NFL Drives Pills Underground; Users Find Them; Pro Football: Spot Checks but No ‘Dehumanization,’” *Washington Post*, May 29, 1979; and Barry Lorge, “Mandell’s Mission: Mandell Refuses to Let Up on NFL over Amphetamine Use,” *Washington Post*, May 30, 1979.

1980s. Yet, if the NFL was unwilling to clean up its own sport, as some critics charged, then at least individual states were enthusiastic about moving to deal with the problem of physician overprescription.

Conclusion

In this chapter, I have discussed how lawmakers, using the newly passed Controlled Substances Act as a platform, moved to tighten controls on amphetamines and other psychostimulant drugs during the early 1970s. The main issue of concern was the proper scheduling of these drugs in the newly created classification system that fell under the jurisdiction of the BNDD and, later, the DEA. Debates over the proper level of controls for psychostimulant drugs during the early 1970s focused on whether they should be controlled according to their medical uses, a position held by the FDA, or according to their potential for addiction and danger of being illegally diverted for illicit use, the preference of the BNDD. I also consider how some physicians expressed opposition to the imposition of controls, using a case from Canada in 1973 as a contrast to those medical experts who supported the imposition of more stringent controls. Despite efforts at opposition, however, the forces of greater control would prevail. Yet the persistence of the “amphetamine cultures” explored in the previous chapter suggests more clearly the way consumption of drugs was, and frequently was not, affected by the intervention of federal authorities, particularly those in the FDA and DEA. By the late 1970s, individual states began to take action to curtail the overprescription of amphetamines.

Chapter 7

Conclusion

With the opening of the 1980s, the zenith of psychostimulants as therapeutic agents appeared to be winding down. The prior decade had seen a narrowing of legitimate indications for the drugs, accompanied by more stringent regulations that constrained their medical uses. With the introduction of newer antipsychotic agents into medical practice during the 1960s and 1970s, the halcyon days of stimulants for combination drug therapies had ended. The introduction of the tricyclic antidepressants for major depression and, later, the selective serotonin reuptake inhibitors (SSRIs) for minor depression, suggested that the psychostimulants' heyday as a treatment for depression had also come to a close. The passage of the 1970 Controlled Substances Act and subsequent efforts by legislators and regulatory bodies, particularly the Food and Drug Administration (FDA) and Drug Enforcement Administration (DEA), formalized the diminishing medical applications of the psychostimulants. Finally, state-level intervention during the late 1970s attenuated the lingering problem of the amphetamine overprescription for obesity.

The federal government's designation of amphetamines and methylphenidate as controlled substances privileged narcolepsy and hyperkinesis as the most legitimate applications for the medications.¹ At the time, the number of patients receiving drugs for both of these conditions was far less than the millions consuming amphetamines for weight loss alone. With this rending of psychostimulants' indications during the 1970s,

¹ For more information about the current scheduling of amphetamine and methylphenidate, as well as its recognized indications, see U.S. Department of Justice, Drug Enforcement Administration, *Drugs of Abuse*, 2005 ed. (Washington, D.C.: Government Printing Office, 2005), chap. 5.

the coming of a new decade portended their demise as medical therapies—a “brave new world” that coincided with a renewed vigor by the Reagan administration to attack nonmedical drug consumption.² What these expectations failed to anticipate, however, was the incredible surge in the number of children who would be diagnosed with attention-deficit/hyperactivity disorder (ADHD) and prescribed psychostimulants for its management.

ADHD and the Resurgence of Ritalin

“Welcome to Ritalin Nation,” declared psychologist Richard DeGrandpre in 1998 after commenting on the staggering rise in the number of school-age children receiving methylphenidate for the treatment of the disorder.³ By the end of the 1970s, much of the initial furor over the prescription of Ritalin and other stimulants for hyperkinesis had diminished. With the official recognition of attention deficit disorder (ADD) in 1980, the disorder was given increased legitimacy. The prescription of Ritalin to children quietly began to escalate. It has been estimated that between 270,000 and 541,000 school children in the United States were being prescribed methylphenidate in 1980.⁴ In 1987, physicians Daniel Safer and John Krager estimated that 750,000 students were receiving the drug for the disorder.⁵ In the 1990s, the number of children prescribed the drug began to skyrocket. By the beginning of the twenty-first century, five million

² See Davenport-Hines, *Pursuit of Oblivion*, chaps. 13 and 14; and Musto, *The American Disease*, chs. 11 and 12.

³ DeGrandpre, *Ritalin Nation*, 18.

⁴ Kenneth D. Gadow, “Prevalence of Drug Treatment for Hyperactivity and Other Childhood Behavior Disorders,” in *Psychosocial Aspects of Drug Treatment for Hyperactivity*, ed. Kenneth D. Gadow and John Loney, eds. (Boulder, CO.: Westview Press, 1981), 13-70.

⁵ Daniel J. Safer and John M. Krager, “A Survey of Medication Treatment for Hyperactive/Inattentive Students,” *Journal of the American Medical Association* 260, no. 15 (October 21, 1988): 2256-2258.

American children and adolescents were prescribed stimulant drugs for the treatment of ADHD.⁶ Accompanying the surge in Ritalin prescriptions during the 1990s was a steep rise in the media's interest in the issue. A Google news search for "Ritalin" between the years 1960 and 2009 (see Figure 7.1) suggests growing media attention in methylphenidate consumption. A closer look at the years between 1980 and 2009 (see Figure 7.2) provides further evidence of how the phenomenon took off during the 1990s.⁷

⁶ Greg Critser, *Generation Rx: How Prescription Drugs Are Altering American Lives, Minds, and Bodies* (Boston: Houghton Mifflin, 2005), 140. My estimate considers the total number of users. Framed another way, in 2001, physicians wrote 20 million prescriptions for the drug nationwide. See "ADHD Medication Issue Could Find National Spotlight," *Education USA*, March 18, 2002, 8.

Utilizing a different set of sources to determine the number of children receiving pharmacotherapy for ADHD, Rasmussen estimates that by 1980, the number was approximately 500,000. By 1990, it had reached about 1 million, and by the early 2000s, it was between 4-5 million.

⁷ I undertook a news archive search of the term "ritalin" (which presents findings both in lowercase and uppercase) in order to gauge growing media attention in the drug. The presentation of findings in Figures 7.1 and 7.2 are meant to provide a rough indication on growing media interest, and they make no claim for precise figures. In particular, I searched the term "ritalin" on Google News, an automated news aggregator service that is part of the larger web portal Google. The aggregator finds news stories from a large selection of scanned newspaper articles going back up to 200 years, and then presents trends in the form of a graph grouped decade by decade. It should be noted that the depth of coverage varies from source to source; however, major newspapers are well represented in the Archive Search. For example

In Figure 7.1, the frequency of the term "ritalin" or "Ritalin" at least one time in news articles from the years 1960 to 2009 are presented. More precisely, the number of articles in which the term appeared: January 1, 1960 to December 31, 1964 – 3 articles; 1965 to 1969 – 11 articles; 1970 to 1974 – 86 articles; 1975 to 1979 – 128 articles; 1980 to 1984 – 111 articles; 1985 to 1989 – 405 articles; 1990 to 1994 – 1,050 articles; 1995 to 1999 – approximately 4,000 articles; 2000 to 2004 – approximately 8,770 articles; and January 1, 2005 to July 25, 2009 – approximately 11,200 articles. Figure 7.2 contains the same findings for the years 1980 to 2009, but presents them organized biannually.

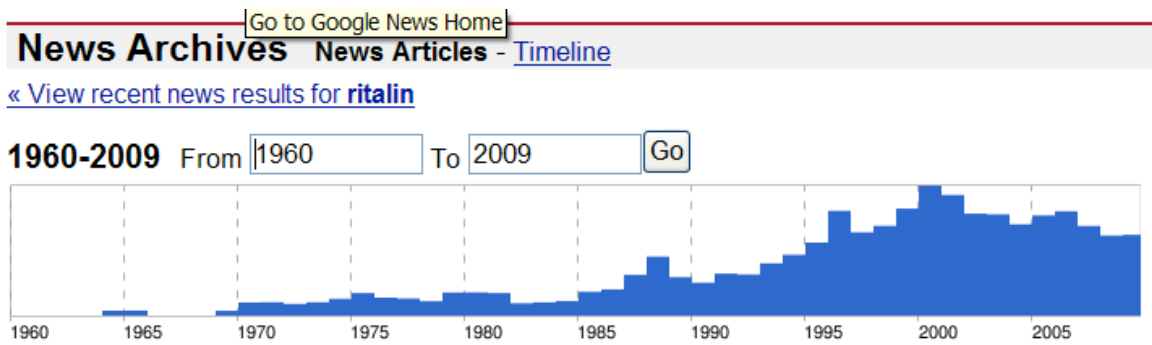


Figure 7.1 – News articles mentioning “ritalin” or “Ritalin” between January 1, 1960 and July 25, 2009. (*Source:* Author)

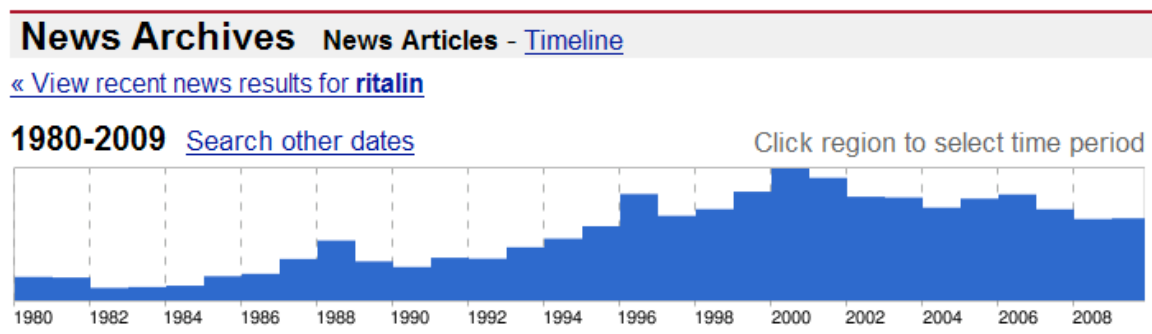


Figure 7.2 – News articles mentioning “ritalin” or “Ritalin” between January 1, 1980 and July 25, 2009. (*Source:* Author)

In 2000, precisely three decades after its first inquiry into the use of “behavior modification drugs” by hyperkinetic children, Congress once again convened hearings to consider the escalating prescription of Ritalin to American youth for ADHD. Perhaps the most interesting feature of the hearings was an obliviousness demonstrated by lawmakers and testifying physicians about the historical dimensions of the disorder; there was not a single reference to the 1970 hearings. However, these latest hearings had many features in common with those held following the “Omaha incident.” Lawmakers expressed concerns about a perceived epidemic of children being prescribed powerful psychotropic drugs to control their behavior, and physicians attested to the validity of the disorder and

its management with stimulant therapies. Both sides agreed that potential overdiagnosis and overprescription were problems to be avoided. In many ways, the hearings confirmed the conventional wisdom about ADHD and Ritalin. But they also revealed some notable historical shifts. One in particular was the emerging dominance of pediatrics over child psychiatry in the prescription of stimulants. In 1998, pediatricians wrote 50 percent of the prescriptions for ADHD; psychiatrists wrote 25 percent; family practitioners wrote 9 percent; and neurologists wrote 7 percent.⁸

“Ritalin Culture”

The escalating incidence of ADHD and its management with stimulant medications since the late 1980s have not been purely medical phenomena. The ADHD experience has been characterized by social and cultural dimensions far surpassing the discourses around hyperkinesis during the 1960s and 1970s. If there were multiple “amphetamine cultures” during the 1960s organized around the drugs’ recreational, weight management, and other performance enhancing characteristics, then perhaps the consumption of psychostimulants (mainly methylphenidate) during the last two decades for ADHD may be characterized as a longstanding “Ritalin culture.”

ADHD’s formal introduction in 1980 marked an important shift for the disorder formerly known as hyperkinesis. The new diagnostic category’s inclusion within the *DSM-III* indicated something of a consensus about its validity within mainstream psychiatry. Coinciding with this new sense of legitimacy for ADHD was a prolific output of books and articles that publicized the disorder while educating a receptive public about the disorder and its treatment. Bestselling books such as Barbara Ingersoll’s *Your*

⁸ House Subcommittee on Early Childhood, Youth, and Families, House Committee on Education and the Workforce, *Ritalin Use among Youth: Examining the Issues and Concerns*, 106th Cong., 2nd sess., 2000, 31.

Hyperactive Child, Edward Hallowell and John Ratey's *Driven to Distraction*, and Russell Barkley's *Taking Charge of ADHD* brought increased publicity to the disorder and its management.⁹ In one sense, these works were harbingers of a broader self-help movement that coalesced around ADHD during the late 1980s and 1990s. At the same time, however, they solidified public acceptance for the new diagnostic category and its medical treatment with stimulant drugs. Acceptance of ADHD as a valid diagnosis, particularly for children and adolescents, was further reinforced by the emergence of summer camps, workshops, and tutoring services to help youth understand and accept their disorder, all of which suggested the development of what Iversen has termed a "self-aware ADHD community."¹⁰ In some quarters, the diagnosis of ADHD has been viewed even more positively. Traits associated with the disorder, such as distractibility, poor impulse control, and emotional sensitivity, have been reconceptualized as strengths by advocates who contend that such individuals are better characterized as creative, energetic, and intuitive.¹¹

Yet a strident opposition movement has developed in parallel to the ADHD-acceptance movement. Contesting the legitimacy of the diagnosis and the associated prescription of Ritalin and other psychostimulant therapies, this group has been more vociferous in their criticism than Conrad or even Schrag and Divorky were during the 1970s. Perhaps the best known representative of this view has been the Church of

⁹ Barbara Ingersoll, *Your Hyperactive Child: A Parent's Guide to Coping with Attention Deficit Disorder* (New York: Doubleday, 1988); Edward M. Hallowell and John J. Ratey, *Driven to Distraction: Recognizing and Coping with Attention Deficit Disorder from Childhood to Adulthood* (New York: Pantheon Books, 1994); and Russell A. Barkley, *Taking Charge of ADHD: The Complete, Authoritative Guide for Parents* (New York: Guilford Publications, 1995). Ingersoll and Barkley are child psychologists, while Hallowell and Ratey are pediatric psychiatrists.

¹⁰ Iversen, *Speed, Ecstasy, Ritalin*, 65.

¹¹ Anne Underwood, "The Gift of ADHD?" *Newsweek* 145, no. 11 (14 March 2005): 48.

Scientology, known popularly for its opposition to conventional modern psychiatry and pharmacotherapy.¹² Through a subsidiary organization called the Citizens Commission on Human Rights, established in 1969 to investigate perceived psychiatric abuses, the Church of Scientology has waged a campaign against Ritalin, claiming the drug to be a “chemical straitjacket.”¹³ In 1987, the Commission lobbied the Republican Study Committee to influence Congress to investigate Ritalin. Representative Cass Ballenger (R-NC), then a member of the House Committee on Education and the Workforce, pursued the matter by requesting the FDA to investigate and report on Ritalin use and safety. But once the relationship between the Committee and the Church of Scientology became clear, Ballenger dissociated himself from the matter.¹⁴

The Committee intensified its campaign in 2000, however, when it filed class-action lawsuits against Novartis and the American Psychiatric Association (APA) in five states. Based on the rising production and prescription of Ritalin throughout the 1990s, the suits alleged that the plaintiffs had conspired to increase the sales of Ritalin.¹⁵ To help make its case, the plaintiffs sought the expertise of psychiatrist Peter Breggin, a well-

¹² W. Vaughn McCall, “Psychiatry and Psychology in the Writings of L. Ron Hubbard,” *Journal of Religion and Health* 46, no. 3 (September 2007): 437-447; Gregory K. Fritz, “Awakening to Scientology,” *Brown University Child and Adolescent Behavior Letter* 22, no. 7 (July 2006): 8; and Danylo Hawaleshka, “A New War over Ritalin,” *Maclean’s* 119, no. 20 (May 15, 2006): 38-39.

¹³ Daniel J. Safer and John M. Krager, “Treatment of Attention Deficit-Hyperactivity Disorder—Reply,” *JAMA* 269, no. 18 (May 12, 1993): 2369; Daniel Smith, “Shock and Disbelief,” *Atlantic Monthly* 287, no. 2 (February 2001): 79-90.

¹⁴ Joel Sappell and Robert W. Welkos, “Suits, Protests Fuel a Campaign against Psychiatry,” *Los Angeles Times*, 29 June 1990.

¹⁵ Barry Meier, “Suits Charge Conspiracy by Maker and Doctor’s Group to Expand Ritalin Use,” *New York Times*, 14 September 2000; Toni Locy, “Fight over Ritalin Is Headed to Court,” *USA Today*, 15 September 2000; “ADHD Lawsuits,” PBS Frontline, 2001 [<http://www.pbs.org/wgbh/pages/frontline/shows/medicating/backlash/lawsuits.html>]. The lawsuits in question were filed in Texas, California, New Jersey, Florida, and Puerto Rico.

known critic of biological psychiatry.¹⁶ The plaintiffs contended that the defendants had conspired to widen the diagnostic criteria when ADD was reclassified as ADHD during the publication of the *DSM-IV* in 1994, thereby increasing the number of people diagnosed with the disorder and boosting the sales and profits of Ritalin's manufacturer. Novartis and the APA responded with the argument that ADHD was a medically valid disorder and that claims to the contrary flew in the face of medical evidence and psychiatric consensus. Furthermore, the defendants pointed to support for their position by the National Institutes of Health (NIH) and its Consensus Conference on ADHD, the National Academy of Pediatrics' diagnosis guidelines for the disorder, and the FDA's continued approval of methylphenidate for its treatment.¹⁷ By 2002, the various lawsuits had been dismissed in favor of Novartis and the APA.

On the surface, it may appear that the Ritalin culture of the 1980s and 1990s consisted of two camps either in support of or opposed to ADHD as a valid medical condition. However, these interests occasionally intersected in unsettling ways. In 1987, a support and advocacy group called Children and Adults with ADD (CHADD) was founded in Florida by a small group of parents and psychologists. Within a decade, membership had grown to over 20,000 members, including 2,000 medical professionals providing care to ADHD patients. While CHADD may have begun as a grassroots movement, its eventual links to the pharmaceutical industry created a massive controversy. In 1995, CHADD petitioned the DEA to reclassify Ritalin from Schedule II

¹⁶ See Peter R. Breggin, *Talking Back to Ritalin: What Doctors Aren't Telling You about Stimulants and ADHD* (Cambridge, MA: Da Capo Press, 2001).

¹⁷ "ADHD Lawsuits." See also, National Institutes of Health, "Diagnosis and Treatment of Attention Deficit Hyperactivity Disorder (ADHD)," *NIH Consensus Statement* 16, no. 2 (November, 16-18 1998), available online at [<http://consensus.nih.gov/1998/1998AttentionDeficitHyperactivityDisorder110PDF.pdf>].

to Schedule III, which would have loosened a number of controls on the drug's prescription rules and production quotas. The DEA denied the request, but in the course of hearings, it was revealed that CHADD had received almost \$1 million in funding from Ciba-Geigy during the early 1990s. In 1991, the drug firm donated \$100,000 to the group, and by 1994, its contributions had grown to \$398,000 annually. Given that CHADD's annual budget at this time was about \$2 million, these contributions were significant.¹⁸ So, too, were the potential benefits that loosening federal controls might have for the pharmaceutical firm.

The relationship between CHADD and Ciba-Geigy prompted the Citizens Commission for Human Rights to name the advocacy group as a defendant in some of its lawsuits against the drug firm and the APA. While those cases may have been dismissed, the establishment of potentially unethical relationships between the parties suggests how murky the issues concerning Ritalin during the last two decades have been. Further compounding this observation is the fact that CHADD still exists as one of the leading ADHD advocacy groups, and that its current partnerships include federal entities such as the Centers for Disease Control's (CDC) National Center on Birth Defects and Developmental Disabilities (NCBDDD).¹⁹

The prescription of Ritalin for ADHD continues to raise questions about the relationship between medical and extramedical use of drugs. In 1998, an article in the Albany, New York *Times-Union* first brought attention to the use of Ritalin by college students as a "study drug." The story highlighted a senior art major at Skidmore College

¹⁸ Karen Thomas, "Ritalin Maker's Ties to Advocates Probed, Financial Link Called Understated," *USA Today*, November 16, 1995.

¹⁹ For more information on the NCBDDD, see [<http://www.cdc.gov/ncbddd/index.html>] and [<http://www.cdc.gov/ncbddd/partners/default.htm>].

in Saratoga Springs, who noted that that the drug allowed her to read three times as fast and “soak it in quicker.” Likewise, a 21-year old economics student confessed that his friends long had consumed Ritalin without a prescription to help them study.²⁰

Throughout the early 2000s, rising extramedical consumption of methylphenidate among high school and college students continued to attract attention among the media, medical authorities, and government officials. By 2004, the Partnership for a Drug-Free America revealed that 2.3 million teenagers in the United States, almost ten percent, claimed to have used stimulants such as Adderall or Ritalin without a prescription.²¹ In subsequent studies, the organization found that over half of teenagers surveyed did not perceive a great risk in the taking of Ritalin or Adderall not prescribed for them.²²

Contemplating the “Fen-Phen” Debacle

As I have noted in my dissertation, the prescription of amphetamine drugs to assist patient-consumers in their efforts to lose weight comprised one of the leading uses

²⁰ “New Drug on Campus: Ritalin,” (*Albany*) *Times-Union*, March 2, 1998.

²¹ See Partnership for a Drug-Free America, *2004 Partnership Attitude Tracking Study*, April 21, 2005. Accessed online: [http://www.drugfree.org/Portal/DrugIssue/Research/PATS_Teens_2004_Report/Teens_Abusing_Rx_and_OTC_Medications]. May 21, 2009.

²² For more on the contemporary features of ADHD and stimulant use, see Diller, *Running on Ritalin*; DeGrandpre, *Ritalin Nation*; Ray Moynihan and Alan Cassels, *Selling Sickness: How the World's Biggest Pharmaceutical Companies are Turning Us All into Patients* (New York: Nation Books, 2005), ch. 4; and Critser, *Generation Rx*, 140-152.

From a sociological perspective, Peter Conrad has remained active in this area of research. For recent examples of his scholarship, see Peter Conrad, “Shifting Engines of Medicalization,” *Journal of Health and Social Behavior* 46, no. 1 (March 2005): 3-14, and Peter Conrad and Valerie Leiter, “Medicalization, Markets, and Consumers,” *Journal of Health and Social Behavior* 45, extra issue, “Health and Health Care in the United States: Origins and Dynamics” (2004): 158-176. Other notable studies include Gaye Tuchman, “EES Presidential Address, 1995—Invisible Differences: On the Management of Children in the Postindustrial Society,” *Sociological Forum* 11, no. 1 (March 1996): 3-23, which suggests how children and adults with ADHD are “unavoidably and unwittingly passing as neurologically normal,” making it more difficult for them to conform to a postindustrial society that places particular demands on them. Also, Claudia Malacrida, *Cold Comfort: Mothers, Professionals, and Attention Deficit Disorder* (Toronto: University of Toronto Press, 2003) and Claudia Malacrida, “Alternative Therapies and Attention Deficit Disorder: Discourses of Maternal Responsibility and Risk,” *Gender and Society* 16, no. 3 (June 2002): 366-385, explore the expectations placed upon and held by mothers raising children with ADHD.

of psychostimulant drugs during the postwar era. Medical authorities and lawmakers voiced earnest concerns over the issue of amphetamine overprescription during the late 1960s. Although the FDA had threatened action during the 1970s, and while states such as Wisconsin took preemptive measures to deal with the problem, by and large, the drugs were permitted to remain on the market.

As a result of the Drug Efficacy Study and Implementation (DESI) conducted during the late 1960s as part of the Kefauver-Harris Amendments, the FDA decided to act upon findings that placed doubts upon the effectiveness of the amphetamines in weight loss. In 1970, the FDA gave the manufacturers of anorectic drugs, including amphetamines, a year to provide substantial evidence, based on controlled clinical studies, of their products' efficacy in weight loss. Were the manufacturers unable to do so, then the FDA threatened to revoke obesity indications for the drug or to remove them from the market altogether. In undertaking this endeavor, physician and FDA official Eric Colman noted that one of the problems faced by policymakers was the absence of standards to define weight-loss efficacy.²³

In June 1972, the FDA revealed the findings from its Amphetamine Anorectic Drug Project, a meta-analysis of the data that had been provided to the Administration, which covered 10,000 patients who had participated in 200 drug studies on the efficacy of the amphetamine drugs for weight loss. The study found that patients who had taken the amphetamine drugs lost "a fraction of a pound more a week" than those patients who

²³ Colman, "Anorectics on Trial," 381-382.

had taken placebo drugs.²⁴ This amount of weight loss might appear to be trivial, especially when considered against the possible dangers of the amphetamines discussed in this dissertation. However small, the findings demonstrated that amphetamine drugs were “statistically significant” when compared to placebo, which was in line with how FDA officials had chosen to measure efficacy.

As a result, the amphetamine drugs were permitted to remain on the market for weight loss during the 1970s, despite occasional threats by federal officials, such as the one in 1979, to remove them from the market. The FDA did mandate in the late 1970s that prescription of these drugs were to be limited to only a few weeks and that warnings would be required regarding their potential for dependence. These requirements, enacted in 1977, coupled with the FDA’s threat of more stringent action appeared to be sufficient for federal lawmakers, if not necessarily for states such as Wisconsin. The 1980s would see an overall decrease in the prescription of amphetamine-based anorectics.²⁵

The decline in the use of stimulant drugs for the treatment of obesity reversed dramatically in the mid-1990s with skyrocketing prescriptions of fenfluramine and phentermine, the combination better known as “Fen-Phen.” Fenfluramine was a sympathomimetic drug introduced in 1973 by Robins Pharmaceutical as Pondimin. In the late 1980s, Wyeth had acquired Robins, as well as the rights to Pondimin. Phentermine was an amphetamine-based drug introduced during in 1959, and it was marketed primarily under the brand Fastin, which was owned by SmithKline.

²⁴ See Thaddeus E. Prout, *Final Report to the Director, Bureau of Drugs*, in *Safety and Efficacy of Anti-Obesity Drugs: Hearings before the Subcommittee on Monopoly of the Senate Committee on Small Business*, 94th Congress, 2nd Session, 1977, cited in Colman, 382.

²⁵ Colman, “Anorectics on Trial,” 382.

Of particular interest in this case was Wyeth, which owned the rights to fenfluramine and had begun marketing it heavily during the mid-1990s as a weight loss drug. At the same time, the firm introduced the dextro-isomer version of the drug, dextrofenfluramine, onto the market as Redux after receiving FDA approval in 1996. The process of approval had been rather controversial, as five members of the eleven person committee believed the drug's weight-loss benefits did not outweigh its risks. Nevertheless, the drug was approved, with the recommendation that its prescription be limited to patients whose obesity posed a threat to long-term health. Despite this stipulation, Redux was being dispensed at a rate of 85,000 prescriptions per week within a year of its market introduction.²⁶

The staggering success of both Fen-Phen and the newer Redux came to an abrupt halt when a medical technician in Fargo, North Dakota, discovered an unusual heart valve defect in patients taking the drug. The hospital's cardiologist, Jack Crary, contacted colleagues at the Mayo Clinic, who also had noticed similar effects associated with the drug. In 1997, the *New England Journal of Medicine* published the findings of the researchers, which suggested that both fenfluramine and dextrofenfluramine were associated with heart valve degeneration.²⁷ In September of that year, both drugs were pulled off of the market, bringing the "Fen-Phen" craze to a swift conclusion. As a result of the debacle, Wyeth was subjected to thousands of lawsuits over the drug, many of which remain unresolved.²⁸

²⁶ Colman, "Anorectics on Trial," 383.

²⁷ See Heidi M. Connolly *et al.* "Valvular Heart Disease Associated with Fenfluramine-Phentermine," *New England Journal of Medicine* 337, no. 9 (August 28, 1997): 581-588.

²⁸ For more on the "Fen-Phen" case, see Iversen, 41-50; Avorn, *Powerful Medicines*, 71-84; Rasmussen, *On Speed*, 241-242; and Alicia Mundy, *Dispensing with the Truth: The Victims, The Drug*

Yet the search for drugs to help Americans lose weight has continued unabated. Shortly after the Fen-Phen scandal, the FDA took aim at another stimulant-like drug being marketed for weight loss, ephedrine. As I noted in my introduction, this sympathomimetic drug fueled Alles's initial discovery of amphetamine in 1929. By the end of the 20th century, it was being revived as a weight loss drug. Expressing concern about the potential health risks that ephedrine posed for dieters, particularly elevated blood pressure and increased risk for heart problems, the FDA proposed a partial ban on the drug in 1997.²⁹ After overcoming initial concerns about how to define safe dietary intake levels and duration of use, in 2004 the FDA finally imposed a ban on ephedrine alkaloids marketed for uses other than asthma, colds, allergies, or traditional Asian medical use. In effect, the FDA was targeting the advertising of non-prescription, ephedrine-containing supplements that had flooded the market in recent years for weight loss. The risks of these supplements, the FDA concluded, outweighed their potential benefits.³⁰ Complementing the FDA's action in this matter were efforts to ban the supplement in sports, particularly professional football, after its use had been increasingly linked to the deaths of athletes since the 1990s.³¹

Companies, and the Dramatic Story behind the Battle over Fen-Phen (New York: St. Martin's Press, 2001).

²⁹ Food and Drug Administration, "Dietary Supplements Containing Ephedrine Alkaloids: Proposed Rule," *Federal Register* 67, no. 107 (June 4, 1997): 30667-30724.

³⁰ Food and Drug Administration, "Dietary Supplements Containing Ephedrine Alkaloids: Reopening of the Comment Period," *Federal Register* 68, no. 43 (March 5, 2003): 10417-10420; Food and Drug Administration, "Final Rule Declaring Dietary Supplements Containing Ephedrine Alkaloids Adulterated Because They Present an Unreasonable Risk," *Federal Register* 69, no. 28 (February 11, 2004): 6787-6854. See also, Quynh-Giang Tran, "Tide May Be Turning against a Wonder Pill, U.S. Reacts to Critics and Plans to Review Safety of Ephedrine," *Boston Globe*, 9 July 2002, and Gina Kolata and Walt Bogdanich, "Despite the Danger Warnings, Ephedra Sells," *New York Times*, 20 February 2003.

³¹ "The NFL Decides to Ban Ephedrine," *New York Times*, September 21, 2001.

Crystal Meth and Ecstasy

Despite efforts to combat methamphetamine abuse since the “speed years” of the 1960s, illicit use of the drug has continued to persist. After a decline in illegal methamphetamine use in the mid-1970s, abuse of the drug began to increase during the early 1980s as street use of methamphetamine overtook that of amphetamine. Part of the reason for this increase involved new methods that allowed amateurs to synthesize the drug from pseudoephedrine, a common ingredient in over-the-counter cold medications.

Originating in the West, particularly California, Colorado, Oregon, Oklahoma, and Texas, illegal methamphetamine use began to rise and then spread eastward in the mid-1980s. Between 1983 and 1988, illicit consumption of the drug doubled, and then it doubled again between 1988 and 1992. However, the greatest spike in consumption came during the 1990s, when there was a five-fold increase in the use of methamphetamine. By 2004, almost 1.5 million Americans had used methamphetamine, and 3 million had used some form of amphetamine non-medically. In addition, the percentage of admissions to drug abuse treatment programs for methamphetamine abuse was about nine percent in 2005, more than double the number a decade earlier.³²

Accompanying the rising use of methamphetamine consumption are the ways in which the drug is manufactured and consumed. Clandestine methamphetamine manufacture in the United States has become increasingly associated with small-scale “meth labs” capable of creating a more potent form of the drug known as crystal meth.

³² For methamphetamine abuse statistics, see Office of Applied Statistics, U.S. Department of Health and Human Services, “Nonmedical Use of Methamphetamine.” Available online at [<http://www.drugabusestatistics.samhsa.gov/prescription/lot.htm#Meth>]. See also, Office of Applied Statistics, U.S. Department of Health and Human Services, “The DASIS Report: Primary Methamphetamine/Amphetamine Admissions to Substance Abuse Treatments: 2005” (February 7, 2008). Available online at [<http://www.drugabusestatistics.samhsa.gov/2k8/methamphetamineTX/meth.htm>]. For a broader discussion of these and other statistics, see Rasmussen, *On Speed*, 223-231.

Resembling clear rock-candy, this form of the drug is commonly smoked in glass pipes. In addition to its cheap and easy manufacture, the drug's fast administration into the body provides an immediate rush that rivals injected forms of the drug. Nicolas Rasmussen has suggested that one reason for the drug's popularity may derive from its allure as an inexpensive alternative to cocaine.³³

In addition to the current epidemic of methamphetamine abuse has been the associated consumption of methylene-dioxy-methamphetamine (MDMA), commonly known as "ecstasy," and a related drug called methylene-dioxy-amphetamine (MDA). In 1930, Gordon Alles discovered MDA as part of his research. While he noted its unusual effects as both a stimulant and hallucinogen, Alles found no immediate use for the drug. Rasmussen has noted how the drug's growing street consumption as an LSD-like substance during the late 1960s, partly through the efforts of the former experimental chemist Alexander Shulgin, led to the drug's rapid criminalization during the early 1970s. However, MDMA remained legal. During the late 1970s and early 1980s, the drug developed a reputation within quasi-medical, alternative psychotherapeutic practices. Generally known as "Adam" within this particular setting, MDMA's particular psychological effects—namely, its ability to reduce fear and anxiety and induce a sense of intimacy within users—made it a popular drug for these therapies. However, the growing reputation of MDMA in this setting attracted the attention of federal authorities, and the drug was formally outlawed as a Schedule I controlled substance in 1985. Nevertheless, underground consumption of MDMA continued to grow during the late 1980s and 1990s as part of the rave-music culture, particularly in Britain. Despite

³³ Ibid. For more on the contemporary use of crystal meth, see also Iversen, *Speed, Ecstasy, Ritalin*, 97-99.

attempts by authorities to crack down on the drug, its illicit use, especially among young ravers, remains popular.³⁴

The Past and Its Relevance for the Present

My brief sketches of the current debates regarding ADHD and its management with stimulants, ongoing controversies regarding diet drugs, and present illicit drug abuse only hint at the complexity of these issues. Thousands of pages have been written on each of these topics. My concern is less to expound on these present debates than to illuminate the past. However, I hope to demonstrate the ongoing relevance of the history to the present concerns over psychostimulant drugs in our society.

The subject of ADHD has been extremely controversial during the past two decades, and there is no indication that the disorder or its management with stimulant drugs will be resolved in the near future. As I have noted, scholars have endeavored to demonstrate that ADHD has a longer history than the current controversies would suggest. My aim in this study was somewhat more modest: to further our understandings of how clinical researchers and child psychiatrists approached the topic of stimulant therapy. In one sense, my task has been somewhat easier than other historians' precisely because my interest was less concerned with the disorder and more focused on the stimulants used in its management. Nevertheless, I am mindful that this issue still engenders its own share of controversies, too. My only hope here is that my study clarifies our understandings about the history of these therapies.

The issue of Fen-Phen clearly has its historical antecedents. Just as Wyeth pursued the market potential of Redux, firms such as SKF, Geigy, and many others attempted to capitalize upon and profit from amphetamines for weight loss during the

³⁴ See Iversen, *Speed, Ecstasy, Ritalin*, chapter 8; and Rasmussen, *On Speed*, 226-231.

decades after World War II. The story is an old one. So, too, are the untold numbers of people who consumed the drugs in the hopes that they would improve their lives, only to learn that “magic pills” can reveal their share of unwelcome consequences.

Finally, crystal meth and MDMA users of the 21st century are also nothing new. The abuse of these drugs can be traced back to the speed freaks of Haight-Ashbury. And when one considers the nonmedical use of ADHD medications such as Adderall among young people as “study drugs,” we can discern even older antecedents regarding the extramedical use of stimulants, not to mention their relationship to the medical uses of drugs. If this dissertation does not directly engage these contemporary issues, then I hope readers will discern the relevance of psychostimulants’ past for their present.

Psychostimulants and the History of Psychiatry

My primary concern throughout this dissertation has been to document the role psychostimulants played in the practice of American psychiatry. Building on the groundbreaking scholarship of David Healy, Edward Shorter, David Herzberg, Andrea Tone, Jonathan Metzl, Erika Dyck, Nicolas Rasmussen, and others, I further demonstrate how pharmacotherapies became a defining feature of psychiatry in the postwar era. Whether using the major tranquilizers to alleviate the symptoms of schizophrenia decisively for the first time or prescribing anxiolytics to calm patients’ “nerves,” psychiatrists have been defined in large part by the medications that have mediated the ills of their patients and ensured their own legitimacy as healers.

Yet my study does more than confirm this broad trend toward drug-mediated psychiatry by complicating scholars’ assumptions about its practice. The application of psychostimulants within both institutional and outpatient settings suggests that the

dividing line between these two forms of psychiatric practice should not be drawn too solidly. Just as clinicians turned to Dexedrine and Ritalin as adjuncts to ECT for their most serious cases of depression within mental hospitals, psychiatrists also prescribed the medications for milder depressive symptoms for their private practice patients. While there may have been very real differences between psychosis and neurosis, the prescription of psychostimulants within both realms suggests that some therapeutic experiences were common to both realms. In doing so, I advance observations made by Jonathan Sadowsky, Mical Raz, and others about the interchanges between institutional and outpatient psychiatry during the postwar era.

The history of therapeutic stimulant use also complicates positivist interpretations of paradigm shifts within the practice of psychiatry. Historians such as Judith Swazey and Edward Shorter have emphasized how chlorpromazine wrought a revolution in the treatment of the severely mentally ill by suggesting how the major tranquilizers represented a major improvement over the somatic therapies documented by Joel Braslow, Jack Pressman, and others. Yet as innovative as these pharmacotherapies may have been, it was clear to many psychiatrists that they were far from perfect and helped only a limited number of patients. My study concludes that combination therapy served to rectify the therapeutic shortcomings of these new drugs, and it suggests that the shift toward psychiatric pharmacotherapy was less orderly than it has been commonly portrayed. At the same time, my analysis of how analytically oriented psychiatrists capitalized on amphetamine and methylphenidate's potential to excite and agitate patients during psychotherapy sessions rendered the drugs ideal for pharmacologically induced abreactions. In doing so, I further the scholarship of Jonathan Metzl, Andrea Tone, and

Nicolas Rasmussen, all of whom have studied the intersection between psychodynamic and pharmacological approaches in outpatient therapeutics.

Psychostimulants and Broader Trends in History

How is my story relevant for non-specialists whose interests may lie outside the history of psychiatry and psychopharmacology? The drugs that have been the focus of my study have been consumed by millions of Americans during the past half-century. Psychostimulants fulfilled a wide variety of expectations for many different Americans. Focusing on the clinical applications of the drugs, I probe how physicians both enabled and stymied these modes of consumption. In some cases, particularly where psychiatric applications of the drug were concerned, users of the drugs were understood explicitly as patients subject to medical authority and expertise. But in others, users were consumers as much as patients—paying customers who exhibited a higher degree of agency. Contrast, for example, the schoolboy placed on stimulant therapy for hyperkinesis with the dieting housewife seeking amphetamine to shed unwanted pounds. Both individuals were ostensibly under the care of physicians, but the nature of the doctor-patient relationship could not have been more different.

In sorting out the myriad uses of psychostimulants by millions of Americans, physicians and policymakers sometimes walked in lockstep. Witness how medical leaders such as David E. Smith and John Griffith worked in tandem with government officials to crack down on amphetamine abuse by “speed freaks.” Conversely, medical leaders managed to win over concerned politicians about the use of stimulants for the treatment of hyperkinesis. As the 1970 Congressional hearings into the use of “behavior modification” drugs reveals, medical leaders made a strong case for the efficacy of

stimulant therapy in hyperkinetic children. If there may have been some overzealous prescription of the drugs in some of the nation's school districts, child psychiatry nevertheless defended the indication of stimulants for the disorder and ensured their continued place within the armamentarium for decades to come. Yet even as I describe broad trends toward the increasing acceptance of stimulant therapy for these children, I am also mindful of the many divergent views held by clinicians. Consider the differences between the clinical researchers such as Leon Eisenberg and Rachel Klein who helped establish the efficacy of the therapies during the 1960s, Omaha school psychiatrist such as Byron Oberst alleged to have overprescribed the drugs to students in his system, and physicians such as Benjamin Feingold who disowned stimulant therapy in favor of dietary changes for the treatment of hyperkinesis during the 1970s. Nevertheless, the cases of recreational speed junkies and hyperactive children serve to provide contrasting examples of the ways in which medical and political authorities demarcated the boundaries between illegitimate and legitimate uses for psychostimulants in postwar America.

Sometimes, however the relationship between physicians and politicians could be more tenuous, if not hostile. Consider how lawmakers such as Senator Birch Bayh had to balance bariatricians' claims that dietary applications of amphetamines indeed constituted legitimate uses of the drugs against mounting concerns from other medical leaders that patients were become unwittingly addicted to them. Moreover, the letters his office received from the public both expressing support and opposition to their ready availability could not have helped in making the conundrum's resolution any easier. Then there was the case of the eminent Heinz Lehmann, who outright decried similar efforts at

controls in Canada, fearing that physicians would lose their ability to pursue the most effective courses of treatment for their patients.

The efforts of profit-hungry pharmaceutical firms to tap the full market potential for their drugs further complicates the demarcation between psychostimulants' legitimate and illegitimate uses. Although companies promoted these drugs for indications congruous with their use by psychiatrists, such as in the treatment of depressive symptoms, adjuncts to psychoanalysis, and hyperkinesis in children, there is no doubt that they also attempted to expand their markets even further. Ciba's marketing of Ritalin for "environmental depression" during the late 1960s and early 1970s especially riled psychiatrists who believed that the company was attempt to bypass the specialty most associated with the treatment of depression, in favor of general practitioners who represented a lucrative market to be courted. There is little doubt that the pharmaceutical industry was seeking to widen its audience for Ritalin, Dexedrine, Dexamyl, and other psychostimulants during these years.

My study reveals something about the broader political economy and culture of drug consumption in postwar America. These drugs were ingested by millions of Americans, affecting their minds, bodies, and lives in the process. My elucidation of their myriad clinical applications, as well as a set of discrete "amphetamine cultures" to ponder the association between medical and extramedical consumption, contributes to historians' understanding of the relationship between physician-prescribers, patient-consumers, pharmaceutical firms, and policymakers. With stimulants still central to the management of ADHD and implicated in escalating patterns of methamphetamine abuse, among other uses, these complex issues have lost none of their relevance for Americans.

Methylphenidate versus Amphetamine: A History of Ritalin?

Although my dissertation ostensibly focused on the clinical uses of the psychostimulants, it admittedly privileged the history of Ritalin. While Rasmussen concerned himself mainly with the history of the amphetamines, his study largely overlooked methylphenidate. While some researchers such as Ilina Singh have called attention to various facets of its past, mainly how Ciba marketed the drug for child hyperactivity, Ritalin's history has remained largely obfuscated. As one of my more implicit contributions to the historiography on pharmaceuticals, I have endeavored throughout this study to illuminate the history of Ritalin. As Singh has perceptively observed, the cultural, political, and even scientific contexts of both Ritalin and ADHD are characterized by a "contemporary flavor" that have cloaked their historical dimensions.³⁵ Just as scholarship by Lakoff, Singh, Mayes and Rafalovich, and Smith have restored some historical comprehension to ADHD and its antecedents, it is my ardent hope that this study has done the same for the history of Ritalin. As I have demonstrated, methylphenidate has enjoyed a complex clinical history characterized by multiple trajectories over the past half-century.

What of this history? How is it substantially different from amphetamine's past? In many ways, the history of methylphenidate very nearly matches that of the amphetamines. Like Benzedrine before it, Ritalin was also used as an antidepressant, and like Methedrine and Dexedrine, it was marketed as a tool to aid psychoanalysis. Both drugs were efficacious in the management of childhood hyperkinesis. However, the unique pharmacological properties that made methylphenidate distinct from amphetamine, namely its attenuated effects on the body, limited some of Ritalin's

³⁵ Singh, "Bad Boys, Good Mothers," 579.

applications. In particular, methylphenidate's lack of anorectic properties meant that it was not marketed for weight loss as the amphetamines were. Yet, as I observed in my study, psychiatrists repeatedly expressed a preference for methylphenidate over the amphetamines for certain applications. Ritalin's properties as a somewhat milder stimulant made it preferable for clinicians who believed the drug a preferable complement to major tranquilizers for the treatment of schizophrenia. And while the weight loss properties of amphetamine made it popular among dieters, these qualities were viewed as undesirable among physicians treating hyperkinetic children and adolescents and helped to solidify methylphenidate's place within child psychiatry. For its part, Ciba made the most of differences between the two drugs in its marketing of methylphenidate. Advertisements that referenced Ritalin as "mild, safer" and "chemically new, clinically different" all served to distinguish the medication from the amphetamines that had preceded it.³⁶

Even beyond the scope of my query, methylphenidate may prove to be the more enduring psychostimulant, at least therapeutically, when its current dominance in the treatment of ADHD is taken into consideration. While amphetamine drugs are still used to manage the disorder, particularly Adderall, an amphetamine-dextroamphetamine combination produced by Shire Pharmaceuticals, it is Ritalin that remains most closely associated with the disorder. Methylphenidate abuse remains a documented problem, particularly where cognitive enhancement among high school and college students is concerned. But such problems are overshadowed by amphetamines' lingering association as drugs of abuse, especially methamphetamine and MDMA.

³⁶ See Figures 2.1, 2.2, and 3.3 for especially relevant examples of Ciba's attempts to position Ritalin as distinct from amphetamines.

For all the contrasts between methylphenidate and amphetamine, however, it is impossible to comprehend the history of the former without considering its relation to the latter. Although it may emphasize the history of Ritalin as an exemplar for understanding the clinical applications of psychostimulants within American medicine, my dissertation has broadly considered the history of a class of drugs rather than any one of its constituents. In taking this holistic approach, I have been able to limn how medications within similar properties could be set against one another in the minds of the physicians who used them. If anything, my study reveals that not all drugs within a given pharmaceutical class were created equal. Discerning clinicians privileged certain psychostimulants over others when seeking the most efficacious treatment for depression, hyperkinesis, obesity, or when needing an adjunct to complement treatments for psychosis or to facilitate psychoanalysis. Likewise, pharmaceutical firms such as Ciba made the most of these clinical preferences and touted drugs such as Ritalin as more efficacious than rival products.

In one sense, my study illuminates the history of Ritalin, whose past has been obscured by its contemporary associations with ADHD. Yet, this dissertation has a more expansive interest. By considering the history of the psychostimulants as a whole, I have been able to further scholars' understandings of both amphetamine and methylphenidate, and related issues such as therapeutic choice by clinicians.

Future Directions

The topic of stimulant drugs has elicited no shortage of study and debate ever since Benzedrine made its debut in 1933. Just as important for the viability of such an enterprise is the fact that the psychostimulants have remained understudied, thus creating

a historiographical gap to be filled and, by extension, an opportunity to be fulfilled. Yet there have been tens of thousands, if not hundreds of thousands, of pages written on the subject within the clinical literature. Government documents on the issue have been equally as voluminous. Other archival sources waiting to be exploited for my study. In short, much more remains to be written about the topic at hand. Several of my chapters could have comprised dissertation topics all their own. This is perhaps most true of Chapter 4, “Brother’s Little Helper,” where much remains to be discovered regarding how stimulant therapy was established as efficacious for hyperkinesis.

Nevertheless, my study’s main concern was to illuminate how clinicians utilized psychostimulant drugs within their practices, as well as to understand the place of medicine in engaging broader issues of consumption and regulatory control of these drugs in postwar America. I believe that each of the chapters contributed to this overall theme. At the same time, I also sought to engage a number of other important historiographical issues in my dissertation, particularly the nature of historical change within the psychiatric profession and the place of pharmaceuticals in effecting that shift and the evolving relationship between physician-prescribers, patient-consumers, the pharmaceutical industry, and regulatory bodies during the postwar era. It is my ardent hope that my study will further illuminate historians’ knowledge about these issues, as well.

As I conclude my dissertation, I also suggest future directions for my study. First, there is still a need to understand just how prevalent the various medical practices I have charted were. The meaning of psychopharmacology can be difficult to deduce without a better sense of the numbers. My future research will be aimed partly at developing a

clearer understanding of this issue. Second, despite my best efforts to recover lost narratives regarding the clinical applications of psychostimulants, there are still others waiting to be rediscovered. I hope that future work will help me to discern these uses and to establish a more robust, patient-centered history of psychostimulants. Third, my work sometimes privileged medical elites in order to reveal the history of psychostimulants, but what of the “average” physician? Did he or she approach these drugs in the same way? By addressing these questions, I hope to develop a more detailed map of the clinical history of these drugs. At the same time, there is a need to hear more from patients and consumers of stimulants. I also hope to consider this issue more. Finally, there is still much to be learned about the interplay between the pharmaceutical industry and medical profession, as well as political leaders and clinicians, where psychostimulants are concerned. I hope to learn more about this issue, as well.

For now, however, I close my dissertation with the observation that psychostimulant drugs have altered the bodies, minds, and lives of many Americans, and that the various agents involved in their manufacture and marketing, prescription and consumption, and control and availability have all played important roles in this process. I hope this dissertation furthers scholars’ knowledge about this subject.

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